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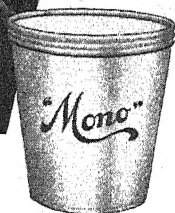
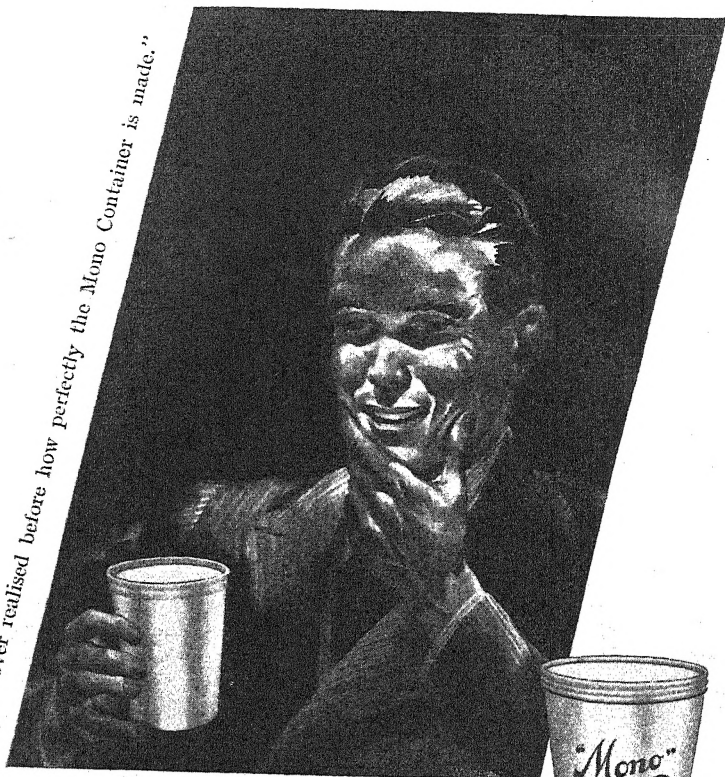
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CONTENTS.

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VOLUME L.

1938.

	PAGE
MEMOIR OF THE LATE GEORGE TITUS BARHAM	9
MEMOIR OF THE LATE SAMUEL PALGRAVE PAGE, J.P.	11
MEMOIR OF THE LATE JAMES SADLER, J.P.	13

ORIGINAL ARTICLES AND REPORTS.

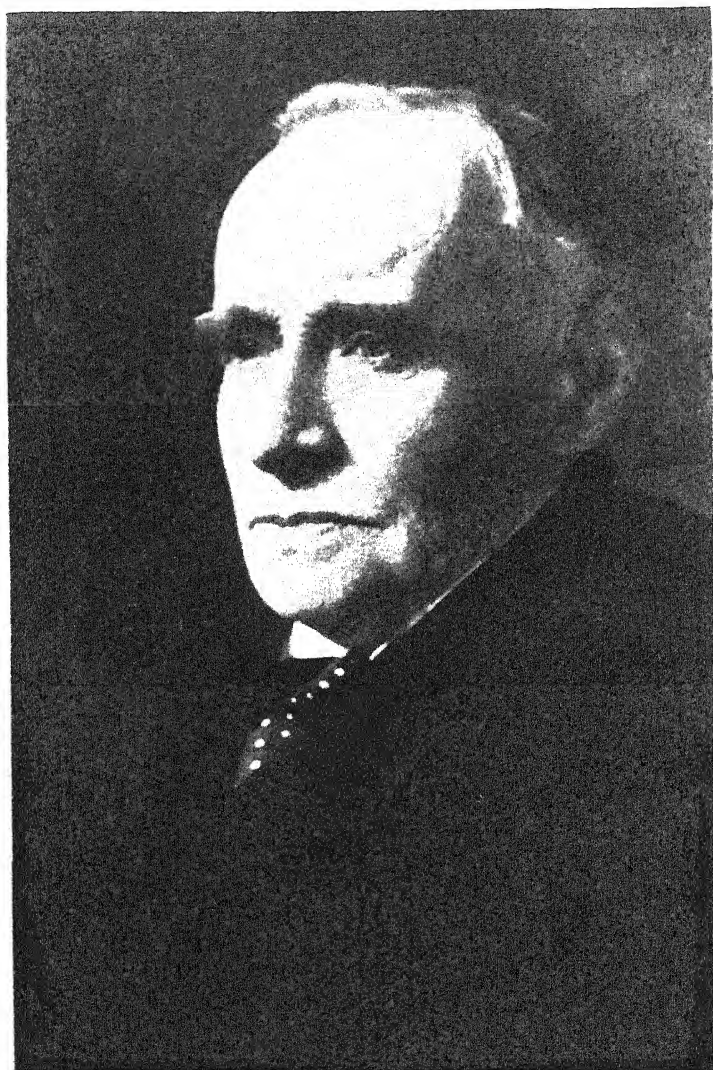
DAIRYING IN SUFFOLK	15
By A. W. PUNTER, B.Sc., N.D.A., N.D.D., B.D.F.D.	
HISTORY OF CHEDDAR CHEESEMAKING	23
By ALEC TODD.	
THE JUDGING OF DAIRY COWS	28
By JAMES MACKINTOSH, O.B.E., N.D.A., N.D.D.	
MY FIRST VISIT TO THE DAIRY SHOW	46
By ELDRED WALKER.	
BODY MEASUREMENTS OF BRITISH BREEDS OF DAIRY CATTLE ...	55
By S. BARTLETT, M.C., D.Sc.	
THE ELEVENTH WORLD'S DAIRY CONGRESS—BERLIN, 1937 ...	70
By The British Dairy Farmers' Association Delegates.	
RECORDS OF TYPE, SIZE AND PRODUCTION OF REPRESENTATIVE ANIMALS AT THE LONDON DAIRY SHOW, 1937	100
By S. BARTLETT, M.C., D.Sc., and W. F. JESSOP.	
ANNUAL REPORT OF THE CONSULTING CHEMIST	119
By T. J. DRAKELEY, D.Sc., Ph.D., F.I.C., F.C.S., F.I.R.I.	

THE DAIRY SHOW OF 1937.

	PAGE
GENERAL REPORT. BY SIDNEY EDWARDS	120
NEW AND IMPROVED INVENTIONS. BY J. G. STAPLETON, E. CAPSTICK AND C. N. GOODE	130
MILKING TRIALS OF COWS AND HEIFERS. BY JAMES MACKINTOSH, O.B.E., N.D.A., N.D.D.	141
MILKING TRIALS FOR GOATS. BY THOS. W. PALMER	225
ROBERT MOND CHALLENGE SHIELD AWARDS. BY JAMES MACKINTOSH, O.B.E., N.D.A., N.D.D.	235
BUTTER TESTS. BY J. G. W. STAFFORD, N.D.D.	241
POULTRY SECTION. BY W. J. GOLDING	270
PIGEON SECTION. BY W. S. BROCKLEHURST, J.P.	277
AWARDS OF PRIZES	288
LIST OF JUDGES	315

OFFICIAL.

OBJECTS OF THE ASSOCIATION AND ADVANTAGES OF MEMBERSHIP	318
THE BRITISH DAIRY INSTITUTE	328
THE 62ND HALF-YEARLY REPORT OF THE COUNCIL	330
THE 62ND ANNUAL REPORT OF THE COUNCIL AND FINANCIAL STATEMENTS	335
THE MEDAL SCHEME	343
THE CONDITIONS RELATING TO PRIZE ESSAY	347
THE PRODUCTION OF CLEAN MILK	348
SYLLABUS OF EXAMINATIONS FOR NATIONAL DAIRY DIPLOMA AND CERTIFICATES FOR FACTORY MANAGERS, CHEESE- MAKING AND BUTTERMILKING FOR 1937	349
RESULTS OF EXAMINATIONS IN 1937	366
EXAMINATION PAPERS FOR 1937	371
MEMBERS OF COUNCIL AND COMMITTEES	389
LIST OF MEMBERS AND AFFILIATED SOCIETIES	392
INDEX TO ADVERTISERS	427



The late **GEORGE TITUS BARHAM.**

"THE PASSING OF THE GRAND OLD MAN OF THE MILK INDUSTRY."

THE LATE GEORGE TITUS BARHAM.

George Titus Barham was born on the 22nd March, 1860, at Dean Street, Fetter Lane, E.C., where his father, afterwards Sir George Barham, started in business on his own account as a dairyman. Mr. Barham's mother was formerly a Miss Rainey, who hailed from the village of Spilsby, Lincolnshire.

He was educated at University College, Gower Street, and, at the age of 18, entered his father's business, which had been founded in 1864 as the "Express Country Milk Company."

As a boy, Mr. Barham suffered from a physical infirmity which necessitated his receiving treatment for many years at the Orthopædic Hospital. He often used to talk of the times when his father, whilst attending to business, drove him about in a horse and trap lying in a seat specially constructed for him by his father. Mr. Barham used to say how much he owed to the love, care and attention of his parents in his early days, which care, being a delicate young man, enabled him to live to the ripe old age of 77.

On the death of his father, in 1913, he succeeded him as Chairman of the Express Dairy Company, of which he had been the Managing Director for several years previously. Under his control the business greatly expanded and, at the time of his decease, it had grown into an organisation of 10,000 employees. He had a great understanding of his staff and never failed to show sympathy when any of their problems were brought to him. Everyone in the business knew that they had only to come to Head Offices and an interview would be granted immediately by the Chief himself.

His interests were almost inexhaustible. He was passionately fond of animals and a wonderful judge of cattle, in which capacity he acted at the chief agricultural shows throughout the length and breadth of England. His keenness in the dairy business could be traced to a love of agriculture, which so demanded his attention that he became an expert. He studied the breeding of cattle, especially the Guernsey breed, and at one time possessed one of the finest herds in the country.

In 1884, with five others, he founded the English Guernsey Cattle Society, and, until his death, was Honorary Treasurer. He was President in 1918 and again in its Jubilee Year in 1934. He was also President of the British Kerry Society and the Dexter Society.

In 1895 he was President of the Metropolitan Dairymen's Institution at the Coming-of-Age Festival, and was again President at the Society's Silver Jubilee in 1934. For many years he was the only survivor of those present at the Inauguration Dinner of the Institution in 1874.

He was one of the oldest members of the Council of the British Dairy Farmers' Association, and was elected its President in its Jubilee Year of 1934.

Horticulture also claimed his attention, and his home at Sudbury Park possesses one of the finest rose gardens in the country. Annually he threw open his grounds and invited the people of Wembley to share in the beauties of his gardens, the occasion being known as "Rose Sunday."

An additional interest at Sudbury Park is the Museum, now a treasure-house of curios, originally commenced by his late father and greatly added to by Mr. and Mrs. Barham as the result of their journeys in different parts of the world, and by Mr. Barham's frequent attendances at auction sales at Sotheby's and Christie's. The crowning act of his life was the gift of his lovely mansion and grounds to the people of Wembley.

Those who were privileged to spend any time at Sudbury Park will remember what a beautiful place it was and an ideal home for the Squire of the district, as Mr. Barham had been known for upwards of 40 years. To spend a Sunday there was always an occasion of benefit and enjoyment. The afternoon would be occupied in visiting one of Mr. Barham's farms, of which he possessed no fewer than ten, situated on the outskirts of Middlesex. Sudbury Park Farm maintained a herd of 100 Dairy Shorthorn cows, and was one of the pioneer farms to take up what is now known as tuberculin-tested certified milk as long ago as 1908.

Mr. Barham possessed a genius for organisation. He was one of the straightest men it was possible to meet—hard in a bargain, but, when he made that bargain, he strictly abided by it. He met the usual reverses in business with that calmness and steadiness that was the finest side of his character. When things were going wrong, he was at his best and gloried in fighting back again, always with a smile on his face.

The passing of Mr. Barham deprives us of his vast experience, cool judgment and genial personality. He will be remembered and loved by all who knew him or came into contact with him in the course of their daily life.





The late SAMUEL PALGRAVE PAGE, J.P.

MEMOIR OF THE LATE SAMUEL PALGRAVE PAGE, J.P.

On August 4th last, Mr. Samuel Palgrave Page passed away at his home at Oakwood Court, Kensington, at the age of 75.

Through his death, the British Dairy Farmers' Association has lost one of its most valuable members and his sound advice and untiring efforts at all times will be sadly missed, more especially by his colleagues on the Council with whom he laboured for so many years.

Mr. Page, who joined the Association on the 6th June, 1886, took such a keen interest in its many activities that in 1890 he was elected to a seat on the Council. From 1892 until 1907 he acted as a Press Steward at the Dairy Show, and for many years from 1903 was a Steward of Refreshments. For a considerable period he was Chairman of the Reception Committee and the many duties he was called upon to perform were always carried out in a most admirable and efficient manner.

In 1907 Mr. Page was elected Chairman of the Finance and General Purposes Committee, a position he continually held until he resigned in 1921, and from 1899 until 1923 he acted as Chairman of the Poultry and Pigeon Committee. In addition, he acted on many Sub-Committees, and in view of his thorough knowledge of the Association's activities and considered opinions, his advice was invariably sought on matters requiring thoughtful consideration.

Palgrave Page, on leaving Bradfield, started his business career in his father's firm of Samuel Page & Son, at that time in Water Lane, Great Tower Street, removing in later years to Montague Chambers, London Bridge. The firm, which was established in 1805, acted as agents on commission for the sale of Australian and New Zealand butter, cheese, bacon and eggs, with similar interests in Canada as well as the continent of Europe and the United States of America. Apart from his business activities, his chief interest in life seemed to be wrapt up in the fortunes and the success of the Association, to which he devoted so great a part of his time and thought, and his regular attendance at the various council and committee meetings makes his loss the more keenly felt. In his early days he was a keen and successful pigeon fancier and his long association with the Poultry and Pigeon Committee was ever of the greatest help. From its earliest days he was Chairman of the Pigeon Marking Conference and, when the National Pigeon Association came into existence about 1917, Mr. Page became its first President and

remained in that office until the annual meeting last year when, through ill-health, he felt compelled to resign.

A Society also whose interests he always had very much at heart was the National Peristeronic Society, founded as far back as 1847, and the oldest pigeon club in existence. He joined it in 1883 and remained a subscribing member to the end. For some years he acted as its Honorary Secretary and on four occasions was its President.

Mr. Page was held in very high esteem by the Association's clerical staff, and it was he who engaged our present Secretary as a junior clerk in 1909.



The late JAMES SADLER, O.B.E., J.P.

MEMOIR OF THE LATE JAMES SADLER, O.B.E., J.P.

The passing of James Sadler, our able and highly esteemed colleague on the Council of the B.D.F.A., on September 18th, 1937, will be sincerely regretted by the members and officials of the Association. In Cheshire, where his work and worth are so well known and appreciated, his loss is well-nigh irreparable.

Mr. Sadler was a man of many parts. His most intimate friends wondered how he kept pace with his multifarious duties—many of them self-imposed—on other people's behalf. Cheshire agriculture and dairy farming in particular owes much to him; one sometimes wonders whether present-day farmers, enjoying the fruits of his labours, appreciate his abundant services as a pioneer in organising their industry.

As a young man he was farming on his own account, but the daily round and ordinary duties on the farm were scarcely sufficient for his mentality and ambition, so he took up the study of the scientific side of agriculture and quickly gained a diploma which qualified him to teach that subject under the Science and Art Department, South Kensington. Then classes were formed in the Nantwich area. There are well-known farmers in that district to-day who gladly testify to the lasting benefit they received from attending his course of lectures.

Farming in those days was full of difficulties. Sadler saw that most of them could not be solved by the action of individuals, so he set to work on the task of organisation for collective action. The result was the formation of the Nantwich Farmers' Club with himself as first Secretary. This organisation quickly grew in numbers and influence; its great success was a tribute to his wise guidance and organising ability.

His efforts for the agricultural community can be gauged from the fact that at one time or other he held office as Secretary of the following associations: Nantwich Farmers' Club, Cheshire Chamber of Agriculture, Cheshire Milk Producers' Association, Cheshire Dairy Farmers' Association, Cheshire War Agricultural Committee. He was assistant commissioner to the Ministry of Agriculture during the War years and a representative of agricultural interests on the county war tribunal; he was a delegate to the Central Chamber of Agriculture in connection with dairy farming, a valuable member of the Council of the B.D.F.A. and a steward at every Dairy Show from 1908 till shortly before his death. When the B.D.F.A. visited Cheshire in 1909 for their annual conference, it was he who undertook all local arrangements.

He was well known at Whitehall, and it would be safe to say that during the last four decades scarcely a measure of conse-

quence to dairy farmers has reached concrete form without receiving Sadler's consideration. Years before the organisation of agricultural policy on a national scale, he conceived the idea of controlling the distribution of milk to secure a fair price to the producer; and long before the National Farmers' Union had thought of organised milk selling, he had put the idea into practice by heading the movement which led to the formation of the Cheshire Milk Producers' Association.

At meeting after meeting in the Cheshire area and in the Council room of the Central Chamber, he laboured at this scheme. Success came at last; for upwards of twenty years the scheme functioned.

For his services as Secretary to the War Agricultural Committee and Commissioner to the Ministry, Sadler was awarded the O.B.E. A more personal tribute came from his brother farmers. In 1920 Cheshire farmers and landowners combined to present him with a testimonial and a cheque for £1,000 as marks of their appreciation of his long service in the cause of agriculture.

A man of liberal vision, enjoying the personal esteem of an exceptionally wide circle of friends, he commanded a hearing in any discussion affecting agricultural interests. He could see the viewpoint of landowner, farmer and worker simultaneously. And few men knew better than he the art of public speech. He was a master of telling phrase, dramatic gesture and timely humour.

Busy as he was with agricultural matters, he found time for other interests. He was a Justice of the Peace for Cheshire, and for over half a century a prominent lay preacher in the Methodist Church. At one of the Primitive Methodist Conferences in London, he was selected to preach the official sermon to a crowded congregation in the Spurgeon Tabernacle. He was interested in education; in season and out of season he preached the gospel of equal opportunities for rural and urban children.

Ten years ago he had to mourn the loss of his dear wife, who had been a great comfort to him throughout his busy life. His latter years were sadly clouded by the loss of his eldest son. To the father, the death of Professor Wilfrid Sadler, of Vancouver University, came as a staggering blow from which, indeed, he never fully recovered. He leaves a son and a daughter, both farming in the Nantwich area, to whom our sincerest sympathies are tendered.

He died full of years and service, having entered into his 80th year, and was buried amid many manifestations of respect and regret; and his memory will remain green and fragrant for many years.

DAIRYING IN SUFFOLK.

By A. W. PUNTER, B.Sc., N.D.A., N.D.D., B.D.F.D.

The County of Suffolk is situated in the east of England, and actually contains the most eastern point in the British Isles. Its eastern situation makes it one of the driest of counties, and as such, more suited to arable crops than grass. The surface is flat, or only slightly undulating, so that there is no difficulty in working implements of cultivation to grow arable crops. The total area of the county is 945,413 acres, of which 716,574, or 75 per cent., is under crops and grass. Of this cultivated area, 500,972 acres, or 70 per cent., is under the plough. There are 56,667 acres of rough grazings which are not included in the acreage under crops and grass, and the remainder is mostly poor heathland with a small area of woods.

There is considerable diversity of soil types in the county, but the limit of each type is generally fairly clearly defined, so that there is not much mixed soil. The soil of more than half the county, and that the central part, is derived from the chalky boulder clay formation, resulting in a strong loam, which is rendered more difficult to work than its mechanical analysis suggests, by the retentive subsoil, and the flatness of contour. Drainage is not easy, and much of the arable is on the small stretch. Young, in his survey of Suffolk at the end of the 18th century, refers to this as the Cow District, but now dairying is practised fairly generally all over the county. Outside the chalky boulder clay district there are smaller areas of easily worked loam, and beyond these again, the soil becomes lighter with parts so poor as to be unsuitable for cultivation of any sort, although some of this has now been taken over for planting trees by the Forestry Commission. In the east there is a coastal strip several miles wide, which varies considerably in poorness, but much of it is deficient of lime. The practice of chalking these lands has been renewed in recent years; much that was on the verge of enlarging the heaths has been kept in profitable cultivation, and some that was derelict has been brought again into cultivation. In the west, again, there is a poor light sandy district to the north-west of Bury St. Edmunds, and much of this is too poor for cultivation, and remains as heath.

Suffolk is well supplied with streams which, owing to the flatness of the countryside, meander about in wide marshy valleys which, when suitably looked after, provide excellent grazing for dairy cattle, and stock in general, during the dry season of the year. For a county which holds the unique position of having its own breeds of cattle, horses, and sheep, the standard of

grassland management is low, as it was also 150 years ago when Young wrote, "Suffolk is not famous for its grasslands, either in respect of fertility or management. Upon the same farms where almost every effort is made upon the arable, the grass is nearly, or quite neglected." In Suffolk, it is only bad fields that are put down, or tumble down to grass. It is considered a waste of land to put a field down to grass which will grow good corn crops.

DAIRY CATTLE.

Cullum, in his history of Hawsted, mentions that in 1359 the lord of the principal manor had pasture for 24 cows, and by 1387, with a decrease in arable land, the cows had increased to 26, and were let out according to the custom of the time for £8 a year.

Robert Reyce, in his "Breviary of Suffolk," 1618, says that at the beginning of the 17th century there were great numbers of large dairies in all parts of the county, but more especially towards the east, which was more naturally given to meadow and pasture than the rest of the shire. He also states that the milch cattle had been introduced in the first place from harder and more barren parts of the country, so that, under the more congenial conditions of Suffolk, they thrived exceedingly, and were the equal of those in any other shire. He describes these cattle as large, with well-knit and long bodies, deep sides, great udders, broad foreheads, with most smooth, fair and beautiful horns, and dairies of 40, 50, or 60 cows were quite common. There was also another kind of milch cattle which was not so good, but did well in the poorer parts of the county.

Young, at the end of the 18th century, said, "The cows of Suffolk have long been celebrated for the great quantity of their milk, which, I believe, much exceeds, on an average, that of any other breed in the island, if quantity of food and the size of the animal are taken into account." He gives this description of certain heavy milkers: "A clean throat, with little dewlap; a thin, clean snake head; a large carcase; well-sprung ribs with a heavy belly; udder large, loose, and creased when empty; milk veins remarkably large, and rising in knotted puffs to the eye (a point noted in practically all famous milkers)" which covers fairly well the points looked for in milking cows to-day. The best milkers were either red, brindle, or yellowish cream colour, and universally polled, for any which showed signs of growing horns were killed for veal.

Young found the quantity of milk given to be very considerable indeed, and said there were very few dairies of any consideration that did not contain cows which gave, in the

height of the season, *i.e.*, at the beginning of June, eight gallons a day, and six was not uncommon for a large part of the season. For two or three months a whole dairy for the cows in milk would average five gallons a day in a favourable season, which for cows of such small size (few exceeding when fattened, 50 stones (of 14 lbs.)) was very remarkable. The quantity of milk was more extraordinary than that of butter. The dual purpose nature of this breed was even then apparent, as many beasts fattened remarkably well with fine quality flesh, and "felt" well enough to satisfy the touch of the most skilful butchers.

It was a common practice in the time of Young's survey to tie the cows up in the fields without shed or roof, but only protected from the winds by a fence of faggots. He thought the greatest fault in management was the carelessness in breeding by killing off the bulls at two or three years old, before their merits could be seen.

The Red Poll breed is derived from a blend of the Polled Suffolk Dun referred to by Young, and the old red Norfolk Horned breeds, retaining the milking qualities of the Suffolk, and the early maturing beef qualities of the Norfolk. There are many herds of pedigree and non-pedigree Red Polls in Suffolk, but there are also many notable commercial herds of Friesians and Shorthorns with a few herds of the Channel Island breeds. There is a tendency at present amongst the owners of large herds of the heavy milking breeds to form smaller herds of Channel Island cattle, to improve the bulk milk in colour and butter fat content.

Although there has probably been little increase of dairy cattle in the traditional dairying districts in recent years, there has been a considerable increase outside it, in the lighter arable districts. In one parish of this nature, extending to 720 acres, the cow population was only eight sixty years ago, and all milk was made into butter. When about 45 years ago, milk selling to the towns of Lowestoft, Norwich, and London became a possible outlet, the cow population increased rapidly to nearly 100 at the time of the War, but it is now back to about 75. It used to be the custom at one time in this parish to pay a man a shilling per cow per week, and house rent free, for milking, preparing food, feeding, churning and selling the skim milk.

Suffolk milk producers are rightly proud of their Milk Recording Society, which, having commenced operations in June, 1914, was one of the first societies formed. It has made steady progress from the start, and for several years now has been the largest society in the country. The proportion of herds recorded is greater in Suffolk than in any other county, reaching about 25 per cent. as compared with a 5 per cent. average for the whole

country. Last year was the second in succession that the average yield of all full year cows exceeded 800 gallons per cow. Out of 329 herd averages, only 17 were below 600 gallons per cow, and 265 herds reached a 700 gallon average. The number of full year cows recorded was 5,737, of which 1,328 were 1,000 galloners, and thirty herds had a 1,000 gallon average. A large proportion of the herds are ordinary commercial ones.

Each year the Milk Recording Society arranges competitions for herds of different sizes and for young stock. These are well supported and there is always keen rivalry for the leading positions. The judges invariably report very favourably on the quality of the stock.

The Society's progress in its 20 years' of existence is well shown by the following summary:—

	1915-16.	1925-26.	1935-36.
Number of members ...	20	204	310
" " herds ...	24	221	347
Total full year cows ...	694	4,065	5,737
Maximum yield of a cow ...	—	20,148½ lbs.	27,854½ lbs.
Average for full year cows	6,000 lbs. (about)	7,469½ lbs.	8,137 lbs.

It is interesting to note that most of the herds that are recorded also produce "Accredited" or "Tuberculin Tested" milk.

DAIRY FARMING.

The low productivity of upland grass in a dry time renders it an unreliable source of cow food, and resort is had to arable crops to augment or, in some cases, almost entirely to replace it. Generally speaking, the land can be made to produce much more cow food under arable crops than under grass so that arable crops play a larger part in Suffolk dairy farming than they do in most counties.

Kale is a very popular food for autumn and early winter use. Sugar beet tops and pulp are used extensively, and have taken the place of mangolds to a certain extent. Sugar beet pulp is mixed with the trough food in the place of sliced roots, and the quite considerable acreage of mangolds still grown is used in a different way from former times. The roots are often thrown out whole on the bare pastures in winter, or where no marshes are available they are often held over to supplement the dried up pastures in the summer time. Maize is grown for use in late summer and autumn, and is particularly useful from its ability to thrive on all sorts of soils and produce a good bulk of fodder even in time of drought.

There are numerous tower-silos in the county and many dairy farmers find silage a great asset. All sorts of crops are ensiled, but an oat, vetch and bean mixture is most commonly used when a crop is grown specially for the purpose. This mixture usually produces a good bulk of material of suitable quality, and the yield is not appreciably less on poor than good land. Trench silos are also used successfully and are especially useful to conserve material which cannot be made use of at the time it is ready. Some farmers make sugar beet tops into silage in clamps or pits and find the product very useful in helping out summer pasture.

Lucerne grows very well, especially on the light lands provided they are not deficient in lime. It is a particularly useful crop for the dairy farmer in this dry district as it is little affected by drought and can be utilised green, made into hay, or, in difficult weather, made into satisfactory silage in a trench if a proper silo is not available. There is no doubt that the productivity of much light land could be greatly increased by growing lucerne leys for cow feed. After ploughing up, the succeeding corn or root crops would be greatly improved. At Tunstall last year a crop of twenty tons of sugar beet per acre was grown after a seven year lucerne ley on land which 11 years ago was derelict.

An interesting development of arable dairying on poor light land may be seen on the Elveden estate of the Earl of Iveagh. There are about 600 head of cattle on the estate and the problem of food for them, where good grass is entirely lacking, is solved by growing about 1,000 acres of lucerne, which generally produces three cuts per annum. It may be fed green, or as hay or silage, but is the main part of maintenance rations of all stock. There are seven herds of tuberculin-tested cattle, either Shorthorn or Guernsey, and the young stock appear to thrive particularly well on the system.

The introduction of the Milk Marketing Board's accredited scheme has resulted in a considerable improvement in cowsheds and dairies in the county. Until recently, only on a few of the larger estates were the buildings reasonably good and among many of the smaller producers the buildings are still in a very unsatisfactory condition. A fair proportion of farms are provided with wholly or partly covered yards where the cows are accommodated on winter nights. A number of herds even near the east coast are kept out day and throughout the year. This appears to have no bad effects on the cows but very often in a wet time results in much poaching of pastures.

DAIRY PRODUCE.

In the middle ages Suffolk was famous for its dairy produce, but while it retained its fame for butter, from the beginning of

17th century, it lost its name for cheese. In "A Breviary of Suffolk," 1618, by Robert Reyce, the whole matter is explained as follows:—He says: In the days of our forefathers, this shire carried away the prize for excellency of both cheese and butter, but now, although the butter is still the best, the cheese, by reason of adulteration, has become suspect. The cheese-makers traded on the fact that their forefathers had built up a reputation for a product comparable with the best anywhere, and an increased demand made them think they could sell anything. The fact that butter showed quick returns, or, as he puts it, "whilst the cheese was in the making, the butter was at market," made them show a preference for butter making, and more and more cheese was made with skim milk, resulting in a very inferior product. He says there was a ready market for dairy produce, many loads of which were sold at fairs both in and out of the county; much was sold for victualling ships for long voyages, and those which took refuge in various creeks during storms. Much also was carried from the local ports to London for the navy and foreign going vessels. It is computed that in an ordinary year 900 loads of butter and cheese were sent to London, and not less than three times as much to other places.

Suffolk retained its name for butter, but never regained it for cheese. In Defoe's time, the eastern side of Suffolk was famous for the best butter and the worst cheese in England, the butter being barrelled, and sometimes pickled in small casks. The Suffolk poet, Bloomfield, says almost every farmhouse had its cheese room facing north, but the cheese in his time was "the well-known butt of many a flinty joke, whose very name alone engenders smiles." A particular variety of cheese known as "Suffolk Bang" was made from milk from which every particle of cream had been abstracted, and was described as one that iron would not cut, fire would not burn, and which hungry dogs would stand and bark at. It has also been described as only fit for making wheels for wheel barrows.

At the beginning of the 19th century, Young estimated that in what he calls the "cow district," which was about one sixth of the total area, and situated in about the middle of the county, there was a cow to every five acres, or 30,000 cows. The total cows in milk at the present time for the whole county is not greatly in excess of this figure. He also estimated at that time 40,000 firkins of butter were sent annually to London from Suffolk. The yearly produce of a cow was then reckoned at about 3-4 firkins of butter. Pigs were always closely associated with Suffolk dairying, living mainly on such bye-products as butter-milk and whey. It was the custom to include hogs in the

income from the dairy. Thus, a correspondent to Young, from Aspal, gives the produce of a dairy as follows:—

					£	s.	d.
3 firkins of Butter @ 32/-	...	...			4	16	0
1 wey of Cheese	...	...	...	...	1	12	6
Hogs	...	...	...	...	1	0	0
Calf	...	...	...	...		10	6
Per Cow					7	18	6

Young himself says the hogs are generally laid at a guinea per cow. It is an old Suffolk custom to keep pigs in yards with other stock, and perhaps this practice has been partly responsible for the preference for Polled cattle.

With the extension of transport facilities in the latter part of the 19th century, the liquid milk market assumed more importance, but there was still a considerable amount of butter made in the county until after the War. With the fall in butter prices, more producers had recourse to the liquid milk market as an outlet for milk, and only the smaller ones were making butter when the Milk Marketing Scheme started.

THE PRESENT POSITION OF DAIRYING.

The coming into operation of the Milk Marketing Scheme has almost completely done away with farmhouse butter making, which had been on the decline for many years, and made production for the liquid market practically the only dairying system in the county.

The number of contracts registered for the Milk Marketing Board for the county of Suffolk is approximately 1,130, and the average number of cows per contract is about 21. There is only one farmhouse cheesemaker operating under the Farmhouse Cheesemakers' Scheme.

There are five factories or depots in the county. In two, milk is processed for the local liquid market, and the balance is made into butter and cream. In one, the milk is processed and all sent to the London liquid market. In another instance, most of the milk is processed and sent to the liquid market in London, but during the flush season, a certain amount is manufactured into butter and cheddar cheese. There is one small manufacturer who manufactures all the milk purchased by him. The milk sent to London averages about 20,000 gallons per day.

The production of registered producers under the Milk Marketing Board averages about 1,250,000 gallons per month in the winter period, and 1,500,000 gallons per month in the

summer period. Approximately 50 per cent. of the milk produced in the county is consumed locally in the winter period, and about 40 per cent. of the summer period output.

The number of "Accredited" licences in the county at the end of August, 1937, was 426, or nearly 38 per cent. of herds registered with the Milk Marketing Board, and the number of "tuberculin-tested" licences was 23. The number of cows producing "accredited" or "tuberculin-tested" milk is probably over 40 per cent. of the total, because, although there are numerous producers with less than four cows, it is, generally speaking, the largest herds that have qualified for these licences.

CLEAN MILK.

It is apparent that clean milk was appreciated in the county many years ago. Mrs. Chevalier, of Aspal, writing on dairying to Young at the end of the 18th century, said that success depended on the uniting of several factors, namely, "No cows are to be kept that do not milk well; they must be fed plentifully; well kept in winter when cabbages are found essentially useful. Extreme cleanliness in the dairy is an article on which more depends than is usually conceived; not in quality only, but even in quantity of produce."

Clean milk on modern lines was started in the county soon after the War, and steady progress made with competitions, &c. In 1929, the county succeeded in winning the Stapleton Cup presented by the British Dairy Farmers' Association for Inter-County competition. By the time the Milk Marketing Board's Accredited Scheme came into operation in 1935 quite a considerable number of producers had received instruction in clean milk work, and were able to qualify as accredited producers at once.

HISTORY OF CHEDDAR CHEESEMAKING.

By A. TODD.

British Dairy Institute.

According to old writings, cheesemaking was carried on in England in the very early ages, as is mentioned by Tusser in 1557. In many county histories, even before that time, cheese is said to have been made and sold off the farms, but there does not seem to be any definite record of the type of this cheese.

As far back as 1600 William Camden writes that Cheddar cheese were made of such size that it took two men to lift one on to a table. Apparently cheese made in the neighbourhood of Cheddar in Somerset were of such a distinctive type that both the name and type of cheese have remained to the present day. In the early days of last century Cheddar cheesemaking was practised in the West of England and in the South West of Scotland, but apparently there was no standard method of manufacture. It appears to have undergone modifications at the hands of different cheesemakers, and one or two who were particularly successful seem to have advanced and put forth a system which they claimed as their own.

Cheddar cheese is now known all over the world, and is largely made in England, Scotland, Canada, Australia, New Zealand, South Africa and in parts of the Continent. The first mention of a definite method of manufacture is set out in the Bath and West of England Agricultural Society's Journal of 1857 in a report by a deputation sent from the Ayrshire Agricultural Association.

In this report they describe a method carried out by Mrs. Harding and her nephew Joseph Harding. It is worthy of note that the principles involved in the methods described in this report are somewhat similar to those followed even at the present day. Mention is made of the precautions taken to have the milk as clean as possible. The men carrying the milk from the cowshed were not allowed to enter the dairy, but poured the milk through a sieve into a receiver outside, from which a pipe conveyed it through the wall to the cheese tub.

No mention is made of any attempt to develop acidity in the milk before renneting as the evening and morning's milk are mixed, the temperature raised to 80°F, and the rennet added immediately. Rennet is made from vells, five of which are steeped at a time, making enough rennet to last for two weeks. The next procedure differs considerably from present day methods. After coagulation, which occupies an hour, the curd is partially

broken and allowed to subside a few minutes in order that a small quantity of whey can be drawn off to be heated. This whey is heated in a boiler in an adjoining compartment. Meanwhile the curd is carefully and minutely broken and stirred with a breaker, and as much of the heated whey added as is needed to raise the temperature to 80°F. At this stage the curd is allowed to settle for an hour, when it is again stirred up, more whey taken out and heated, and returned to the vat, stirring meanwhile and raising the temperature to 100°F. Stirring is continued for a time until the curd is fairly firm, when it is left to subside for half an hour. The whey is then drawn off, and the curd heaped up in the centre of the vat and left for an hour, with no other pressure than its own weight. After this interval it is cut into large blocks, turned over, and left in a heap for an hour. After undergoing these manipulations, and lying untouched during the intervals, the curd is ripe for the application of pressure but it should not be pressed at too high a temperature. It is then put into vats and subjected to moderate pressure for about an hour. The next process is to take the curd from the vats and break finely by putting it through a curd mill, mix in the salt in the proportion of 1 lb. to 56 lb. curd, and put to press. It will be noticed that no mention is made of the development of acidity during the whole process.

This system of cheesemaking was taught by Harding in Somerset for a number of years, and he was afterwards asked to teach his method in Scotland, where it was followed for a number of years.

About 1850 mention is made of factory cheesemaking beginning in America and Canada, where they varied the English method of manufacture, and by degrees arose what is known as the Canadian system of Cheddar making.

Immediately following the teaching of Harding, two methods of cheesemaking were followed in Somerset and Dorset, known respectively as the Candy and Cannon systems. The former was the first to mention the necessity of ripening the milk before renneting. The desired acidity was obtained by keeping the milk at a fairly high temperature during the night, a somewhat risky procedure. The milk was poured into deep pans holding about 30 gallons, at a temperature of about 90°F. To secure proper ripeness, it should not fall below 78°F. before 10 o'clock, nor below 68°F. by the next morning. The making process is described by Candy in Volume IV (1893-1894) of the Bath and West of England Journal. He says that if the milk is properly kept and ripened overnight it is not advisable to carry on this ripening further. The evening's milk is not heated next morning, but the new milk, with which it is mixed, is so heated to bring

the whole to the renneting temperature of 84°F . The rennet is stirred in for about six minutes when the vat is covered up and left for about 45 minutes, and if firm enough in this time, the top is turned in by the use of a skimmer, the surface being cut to the depth of about two inches. The vat is then covered with a cloth and allowed to remain till the whey rises, which should be about 15 minutes. The curd is then gently broken and the old English shovel breaker used. This breaker should be sharp so that it will cut the curd—not bruise it. The time of breaking should occupy about 50 minutes; this time will, however, be correct only when all the conditions are at their best. When breaking is completed the curd is in a very fine condition, yet when skilfully done is without loss of fat and when finally broken it is allowed to settle. One of the chief characteristics of this system is the high scald to which the curd is subjected and this is obtained in the ordinary course of two scalds, the temperature of the first scald being 94°F . and the second 106°F . Very little difference is made in the temperature of the scald to meet the varying ripeness of the milk. The curd is stirred in the last scald only for three minutes, when it is allowed to settle to the bottom of the tub. Here experience must determine the length of time the whey must remain on the curd, but about 30 minutes is usual. The whey is now drawn off, and the curd lying on the bottom of the vat is cut into foot squares, and turned over, the outer squares being placed on edge, and resting against the interior, it is then covered with a cloth and left for some minutes according to its condition. The squares are then cut into two pieces and removed to the draining rack, where the curd is packed—if sweet, closely, and, if acid, more openly. It is again cut at about half-hourly intervals, and ground at about 5.30 p.m., spread over the cooler and covered with cloths until about 8 o'clock, when it is salted with $2\frac{1}{2}$ lb. salt to the hundredweight of curd.

In describing these two methods it is seen they vary considerably. In the Harding system no mention is made of ripening the milk or of acidity, whereas in the Candy system the evening's milk is kept at a high temperature, in order to produce acidity. The scald is also very much higher in the latter than the former. A certain amount of natural acidity must have developed during the process of making of both the Harding and Candy systems, but it does not seem to have been controlled by any organised tests.

Another method was practised in Somerset by Henry Cannon of Evercreech, and about 1887 cheese made by his daughter was awarded Champion prize at Frome Show. The process is very much the same as in the two methods previously mentioned, with the exception of two main factors. Sour whey saved from the previous day is added to the milk before renneting and the

curd bundled on the cooler and pressed. Sour whey is also mentioned as being used as far back as 1861 by McAdam, a successful Kirkeudbrightshire maker.

About 1890 the Bath and West of England Society started a cheese school in Somerset, and Miss E. J. Cannon was appointed instructress. Up to this time there is no evidence that any test for the acidity of the milk before renneting, or of the curd during the process of making, was used, though the rennet test of the milk and the hot iron test on the curd had been used for some years in Canada and Scotland.

In 1891 the Board of Agriculture, in conjunction with the Bath and West of England Society, started investigations on the process of Cheddar cheesemaking, and the late Prof. F. J. Lloyd was appointed to carry out these investigations. He found that a definite amount of acidity was essential at different stages of the process of making, and evolved the soda test, which is now universally used by all cheesemakers as a means of correctly estimating the development of acidity in the milk and whey. By its use a more uniform make of cheese is produced throughout the country.

The Harding method of making was superseded in Scotland by the American or Canadian method about 1880, and was first taught by Harris, a Canadian, who gave instruction by visiting the farms and making cheese. He was followed by R. J. Drummond, another Canadian, who for a few years followed on the same lines, until the dairy school was started at Kilmarnock, when he was appointed principal. This Canadian method was quite different to that taught by Harding, and even this method considerably changed during the writer's memory.

In the early days the acidity was developed in the milk by keeping it at a fairly high temperature during the night, and as a definite amount was necessary, many hours were lost waiting for its development. The main difference of this process was in the cutting of the curd, and the treatment of it after the whey was drawn. The American perpendicular and horizontal knives were used for cutting, which were superior to the curd breaker. The curd was cut fairly fine, and scalded by steam in a double-jacketed vat, and was usually heated to temperatures ranging from 100°F. to 104°F. in about 45 minutes. Stirring continued until it was firm and shotty, when it was settled on the vat where it remained, usually for nearly an hour, until when tested on the hot iron it pulled fine threads of about half-an-inch. The whey was then drawn and the curd scooped on to a cooler, over which was placed a cloth, and then stirred vigorously until quite dry; it was then piled on one end of the cooler and covered with a cloth. In half-an-hour it was cut into blocks, turned and piled

two deep, and after another half-hour was turned and piled, this process continuing at half-hourly intervals until sufficient acid had developed, and the curd, when tested on the hot iron, would pull fine threads nearly two inches long. This method, with some modifications, is still followed in Scotland and in most of the Dominions, but is not followed in the West of England. Somerset is still partial to a modification of the Harding, Cannon and Candy systems, and the practice generally followed and taught in the County is described as the Cannington system. Scotland and the Dominions follow the Canadian methods.

The question of regulating the acidity in the milk for cheesemaking has always been recognised as an important factor in the manufacture of Cheddar cheese. Different methods were practised to bring about acidity. In some cases the evening's milk was kept at a fairly high temperature to encourage acid development; in others old milk was added for the same purpose, and in many districts sour whey from the previous day was added to the milk. The result of all this was a great lack of uniformity in the make of cheese throughout the season. The use of a pure culture starter was first introduced about 1895 by the late Professor Campbell, who did a considerable amount of work on its use on cheesemaking farms in Kirkeudbrightshire. Following this, starter was made and used daily at the Dairy School, Kilmarnock, and many of the best cheesemakers quickly recognised the great advantage accruing from its use, with the result that a lactic starter is now used in every cheesemaking district, both at home and abroad.

The storing or ripening of cheese has, with the changing methods of manufacture, undergone considerable alterations. Under the older methods of manufacture, the cheese were kept for six to eight months, usually at a temperature of 60°F., before marketing. Under present day conditions cold storage plays an important part. All cheese for importation into this country from the Dominions are placed in cold store when about two weeks old, and kept there during transit, and before sale. In many of the larger factories manufacturing cheese in this country a circulation of brine is used in the ripening room and the cheese ripened at a very much lower temperature than was possible under farm house conditions.

THE JUDGING OF DAIRY COWS.

By JAMES MACKINTOSH, O.B.E., N.D.A., N.D.D.

The object of this article is to review the development of the judging of dairy cows from the earliest records to the present day. Special attention is given to the results of investigations into the correlations between certain points and features and actual yields, and to the relationship between conformation and the qualities considered to be of value in dairy cows. A critical résumé is also given of the use of inspection and performance in the judging of cows at the present time.

THE JUDGING OF DAIRY COWS.

Historical.—Since cattle were first domesticated there can be little doubt that attempts have been made continuously to classify cows in some order of merit. Historically, there is evidence that the earliest known judgment took account of the suitability of cows for three purposes—production of milk, production of meat and for draught purposes. The relative value of cows for these purposes would no doubt vary according to the conditions under which their owners lived; indeed, at the present time the suitability of the cow for draught purposes is still a matter of importance in many countries.

In Great Britain the differentiation of cattle into breeds and the gradual creation and acceptance of breeds standards must also have been based on judgment, and selection as the result of judgment. The English agricultural writers of the 17th century noted that in certain counties or groups of counties there were cattle with special qualities. Gervase Markham, the author of "Cheape and Good Husbandry" (1631), and John Mortimer, author of "The Whole Art of Husbandry in the Way of Managing and Improving Land" (1707), are quoted by Prothero (1) to the following effect:—

"Among cattle, the best breeds 'for meat' were the long-horned cattle of Yorkshire, Derbyshire, Lancashire and Staffordshire. The tall long-legged Lincolns, generally 'pide,' with more white than any other colour, were reckoned the best for 'labour and draught.' 'Those in Somersetshire and Gloucestershire are generally of a blood-red colour, in all shapes like unto those in Lincolnshire, and fittest for their uses.' So for Markham. Mortimer adds other breeds. 'A good hardy sort for fattening on barren or middling sort of land are your Angleseys and Welch. The hardiest are the Scotch.' The best breed for milking, in his opinion, was the 'long-legged short-horn'd cow of the Dutch breed, chiefly found in Lincolnshire and Kent.'"

Towards the end of the 18th century many of the breeds were more definitely known by the names of the counties or districts in which they had been developed, such as Devons, Herefords, Galloways and Ayrshires. In some instances, however, breed names came into use which indicated some characteristic feature such as Longhorns, Shorthorns and Polls.

Early descriptions of cows.—About this time also several writers ventured to give written descriptions of the ideal type of animal at which breeders should aim. Fussell (2) comments that these descriptions show a surprising measure of agreement, which may be the result of writers copying each other, or of a real agreement regarding the type of beast considered most desirable.

Bradley, author of "The Gentleman and Farmer's Guide for the Increase and Improvement of Cattle" (1729) as quoted by Fussell, states that "cows should be of high stature, long-bodied, having great udders, broad forehead and smooth, fair horns and smooth, the other characters being the same as the bull. Lawrence (3), in his "Treatise on Cattle" (1805), goes into greater detail and states that the signs of the true milk cow, or the indication of copious milking, in whatever species are:—"Capacious and thin udder, large teats, large and distinct milk vein, these generally accompanied with fineness of the head and chops, thinness of the neck, somewhat gaunt and meagre appearance of the body, promising no great tendency to fatten. When a large and fine udder is found, sufficient milking need not be doubted." Lawrence adds the following comment, which resembles some of the criticisms of the present day—"The common minute descriptions, ancient and modern, of the milk cow have much more of the whimsical and irrelevant than of the pointed and useful in them."

William Harley, of Glasgow (4), author of "The Harleian Dairy System" (1829), gives an even fuller description of "the most approved shape and marks of a good dairy cow," which is all the more worthy of attention because the writer practised the weekly recording by measure of the milk yield of each cow in his herd of cows for many years. His description is as follows:—

"Head small, long and narrow towards the muzzle. Horns small, clear and bent and placed at a considerable distance from each other. Eyes not large, but brisk and lively. Neck slender and long, tapering towards the head and a little loose skin below. Shoulders and forequarters light and thin. Hindquarters large and broad. Back straight and joints slack and open. Carcass deep in the rib. Tail small and long, reaching to the heels. Legs small and short, with firm joints. Udder square, but a little

oblong, stretching forward, thin-skinned and capacious, but not low hung. Teats small, pointing outwards, and at a considerable distance from each other. Milk veins capacious and prominent. Skin loose, thin and soft like a glove. Hair short, soft and woolly. General figure, handsome and well proportioned."

About the same time a description was published by Guenon in France which is worth quoting, because there is little probability that this writer had access to the descriptions then current in England and referred to critically by Lawrence. Guenon is best known as the originator of the "escutcheon system," but according to Hazard (5) he advocated the judging of cows by the following 10 points (details are given only of those visible on inspection):—

1. Skin.—Must be fairly thin, mellow, oily and of a rich golden colour.

2. Hair.—Should be short, soft and silky or furry.

3. Conformation.—Small neat head, thin pretty neck upon fairly rounded shoulders; nice, thin, rather crumpled horns, with a tendency to dishing of the face; mild, bright eye and a muzzle indicating good breathing powers. Chest showing good respiratory organs, barrel, large and deep, back bone prominent, with three depressions about the centre—a good sign. Back straight to the root of the tail. Loins broad, haunch and pelvic bones wide apart and a liberal distance from one to the other. Short, neat, trim legs and a large deep barrel. Milk veins, double, large, prominent, knotty, zigzag. Udder level on under side, going forward nearly level with the belly, not hanging down unevenly in the hinder quarters; collapsing like a rag when milked out. Teats medium size, evenly placed on the udder.

4. Age.—Judged by the teeth, horns and general appearance.

5. Period of gestation.

6. Health.—Judged by clear eye, healthy skin, fine coat of hair, good quick step and excellent appetite.

7. Food.

8. Breed.

9. Size.—Yield in proportion to size, other points being equal.

10. Escutcheon.—This may be defined as the area on the upper part of the rear udder and the back of the thighs where the hair grows upward. (See also p. 40.)

By the use of the above points, and particularly the size and shape of the escutcheon, Guenon and his followers claimed

that they could "very surely tell whether the cow about to be purchased is a good one, how much milk she will give, how much butter she will make and how long she will milk."

The descriptions of dairy cows given above were designed to direct attention to those points of conformation by which the value of the cow as a milk and butter producer could be judged. Although the various breeds were recognised, the utility of the individual animal was the essential feature, rather than the extent to which it displayed the characteristics peculiar to the breed to which it belonged. There are, however, a few phrases in these descriptions which show that special breed points received some attention, such as Harley's reference to "horns, small, clear and bent and placed at a considerable distance from each other," and Guenon's "nice, thin, rather crumpled horns, with a tendency to dishing of the face." Each writer, though directing attention essentially to utility points, could hardly avoid reference to other characteristics usually found in the breed or type of which he had most experience. Harley mentions with approval the improved Ayrshire breed and his description of the desirable type of udder—square, a little oblong, stretching forward, thin-skinned and capacious, but not low hung—indicates that over 100 years ago breeders had directed their attention to the development of the shape of udder that is so characteristic of the Ayrshire breed to-day. Guenon's reference to the rich golden colour of the skin, the crumpled horn and the dished face indicates that he was most familiar with cows possessing some of the characteristics of the Channel Island breeds, though he himself was a native of Libourne, near Bordeaux.

Dairy Cattle at Shows.--During the 19th century opinion on the essential characteristics of the various breeds became more definite. In 1814 the Highland and Agricultural Society for Scotland awarded premiums for Ayrshires.

In 1839 the first show of the Royal Agricultural Society was held at Oxford, and for several years the cattle classes were limited to Shorthorns, Herefords and Devons. In 1844 at the Southampton show special prizes for Channel Island cattle were offered, but it was not until the Warwick Royal in 1859 that a class was provided for milking cows of any breed or cross. It is an interesting sidelight on the current ideas as to dairy cows to note that the prize was awarded to a polled Angus cow; a Longhorn was highly commended and an Alderney commended. Another remark, which shows that some confusion of thought existed as to what constituted a dairy cow, is found in the report on the cattle exhibited at the Leeds Royal in 1861. "Two high-bred cows, full of *beef* and no milk, were entered for 'dairy

purposes, but the Judges, of course, treated this as a *ruse*, and passed on to the *milking* specimens." Even by 1877 there was little evidence that dairy qualities as such were much thought of. At the Liverpool Royal of that year a class was provided for pairs of dairy cows in milk and another for single cows in milk. The report states that "In these classes the Judges considered that their attention was by the conditions particularly directed to the milking properties of the cows exhibited and their awards were made in conformity with those directions." The attitude towards the judging of dairy cows indicated by these quotations gives point to Prothero's comment that in England during the period from 1853 to 1874 little attention was paid to improvements in dairying.

The next 10 to 15 years saw the formation of Cattle Breed Societies in the present day sense of the term. The Shorthorn Society was founded in 1875, the Ayrshire Cattle Herd Book Society in 1877, the English Jersey Cattle Society in 1878, the English Guernsey Cattle Society in 1884 and the Red Poll Cattle Society in 1888.

Scales of Points.—With the advent of breed societies more definite attempts were made to give an accurate description of the type of animal at which breeders should aim. As early as 1834 a scale of marks was drawn up in Jersey for bulls and cows by the Jersey Agricultural and Horticultural Society and similar action was taken by the Royal Agricultural Society of Guernsey about 1842. These scales of marks have been revised from time to time and a comparison of the earliest and the most recent scales shows some very interesting changes. For example, in the earliest scales for cows of both the Channel Island breeds, the head, including horns, ears and eyes, was allotted 26 to 30 per cent. of the marks and the udder, including teats and milk veins, only 13 to 15 per cent. In the current scales the proportion of marks allotted to the head has been reduced to 8 per cent. and the proportion to the udder, teats and veins increased to 34 to 38 per cent.

Some British societies followed the example set by the Channel Island breeders and gave each point a numerical value, usually with a maximum of 100 marks; other societies were content to issue a description without attempting to give each point a value in comparison with other points. From time to time also the official description was modified and improved. In 1884 a scale of marks for Ayrshire cows was drawn up by the Herd Book Society, and in 1906 a revised scale was issued because the former was considered to give too much attention to appearance and fancy points, including small teats. In the 1884 scale the desirable length of teat was given as 2 to 2½ inches, but in 1906 this was revised to 2½ to 3½ inches.

It is interesting to note the varying emphasis laid on different features in the score cards of the different breeds. Direct comparison in detail is impossible by reason of the grouping of a number of points together in certain of the scales of marks, but a general comparison can be made as shown in the following table:—

COMPARISON OF ALLOCATION OF MARKS IN DAIRY BREED SCALES OF POINTS.

Group of Features.	E.G.C.S.	R.G.A.H.S.	E.J.C.S.	Ayrshire.	South Devon.
Head	5	5	8	8	8
Neck, forequarters, body, hind-quarters, legs and tail ...	25	32	34	41	46
Udder, teats, milk veins and escutcheon	42	28	38	30	20
Skin, hair and colour	10	5	4	7	12
Secretions	10	20	3	1	—
Weight or size	8	10	3	8	—
Style or general appearance ...	—	—	10	5	14
	100	100	100	100	100

The South Devon breed has claims to the possession of dual-purpose qualities, hence it is not surprising that this breed should have the highest proportion of marks allocated to body and fore and hind-quarters. It is, however, surprising that there is such wide divergences amongst the three purely dairy breeds, and astonishing that the three scales of points for the two Channel Island breeds should show such variation in the proportion of marks allotted to secretions. In view of the divergences shown above, those societies which have issued descriptions without attempting to allocate marks to each feature may have shown discretion if not valour.

There can be little doubt that the basis on which the above-mentioned scales of marks were formulated was the opinions of representative breeders as to the relative importance of the various features. Awards at the various shows were no doubt made on the same basis. The question then arises to what extent the opinions of the breeders and judges were influenced by points of definite utility and also by the need for approximation to features considered to be characteristic of each breed. There can be little doubt that the development of the show system in the latter half of the 19th century and the demand from other countries for animals of certain lines of breeding concentrated attention on high condition and the possession of breed characteristics which were not necessarily combined with utility and efficiency in the production of milk.

Up to this stage judgment and selection of dairy stock had been almost, if not entirely, based on opinions unsupported by reliable information on the actual quantity and quality of the milk yielded by the cows. Essential data by which judgment by the eye and hand could be checked and corrected were not available.

Introduction of Milking Trials.—Towards the end of century greater attention was given to the evidence of possession of true dairy qualities. In 1876 the British Dairy Farmers' Association held its first dairy show in London and in 1879 milking trials were instituted at this show for the first time. A prize was awarded to the cow in each breed giving the largest quantity of milk irrespective of quality or lapse of time since calving. During the next few years improvements were introduced and gradually the milking trials approximated to the form which has been a feature of the show for many years. The Dairy Show is the only show in Britain in which all cows and heifers present must compete by inspection and also by yield and quality of milk.

In 1885, at the show at Preston, the Royal Agricultural Society inaugurated milking trials for the cows entered in the Dairy Cattle classes. Prizes were offered for the best cow in any breed "giving not less than 18 quarts of milk per day containing not less than 12 per cent. of solids (including butter fat)." In 1888 at Nottingham classification according to live weight was introduced; further improvements were made at the Jubilee Royal at Windsor in 1889 and from this date milking trials have been an established feature of the Royal Show.

In 1886 at the London Dairy Show, butter tests were introduced for Jerseys, and in subsequent years this additional means of measuring the production of dairy cows was opened to other breeds.

In 1899 the Red Poll Cattle Society formulated regulations for the recognition of the dual-purpose qualities of the breed and for the keeping of complete milk records of all cows in a herd and for the judging of both milking qualities and general appearance. In 1901 the Shorthorn Society commenced giving prizes for Shorthorn cows showing dairy qualities and in 1905 the Dairy Shorthorn Association was formed for the encouragement of the breeding of the Pure-bred Dairy Shorthorn by the giving of prizes, recommending judges, publishing milk records and other information. In 1936, this Association was again merged in the Shorthorn Society.

Introduction of Milk Recording.—The results of milking trials and butter tests at shows were, however, of only limited value and by far the most important step in providing the

information needed to check the accuracy of opinions on the value of dairy characteristics was the introduction of systematic milk recording. In 1903, a few societies for this work were formed in Scotland under the auspices of the Highland and Agricultural Society. In England several milk recording circles were formed by Agricultural Colleges and County Councils prior to 1914, but the introduction in that year of the Ministry of Agriculture's Scheme marked the official beginning of systematic recording in this country. In other countries, notably Denmark and the United States, milk recording and cow testing had been taken up at an earlier date, and the significance of milk and fat records of individual cows in relation to the older methods of judging had been more quickly appreciated.

In England gradually the common showyard expression "best cow in her class" came to require qualification when used in relation to dairy cows. It was realised that a cow might be "best" on inspection in the sense that she possessed to a greater degree than her competitors the features considered most typical of her breed, or most indicative of milk production; another cow in the same class might be "best" in the sense that she had given the largest yield of milk at a show or in the preceding lactation period, while still another might be "best" in the sense that she had produced in her milk the largest quantity of butter or the largest quantity of milk solids (including butter fat). Also, from the practical dairy farmer's point of view, the cow which is healthy, produces economically a large yield of good quality milk, breeds regularly and is of a good type is most worthy of the name of "best." There has been and will continue to be much discussion on the different aspects of this question, but it is indisputable that the information supplied by milk and fat records, because it is based on facts and not on opinions, must play a larger part in our judgment of cows, and will as time passes influence our views as to the relative value of the different external indications of milk and fat production.

Use of Records to check Opinions.—The accumulation of records of the milk and fat yields of large numbers of cows has naturally led to a comparison of the value of many of the commonly accepted inspection points, and the degree to which they may be regarded as indicating the quantity and quality of the milk. Many of these comparisons have been made in the United States, because recording the yields of individual cows has been practised for a longer period than in this country.

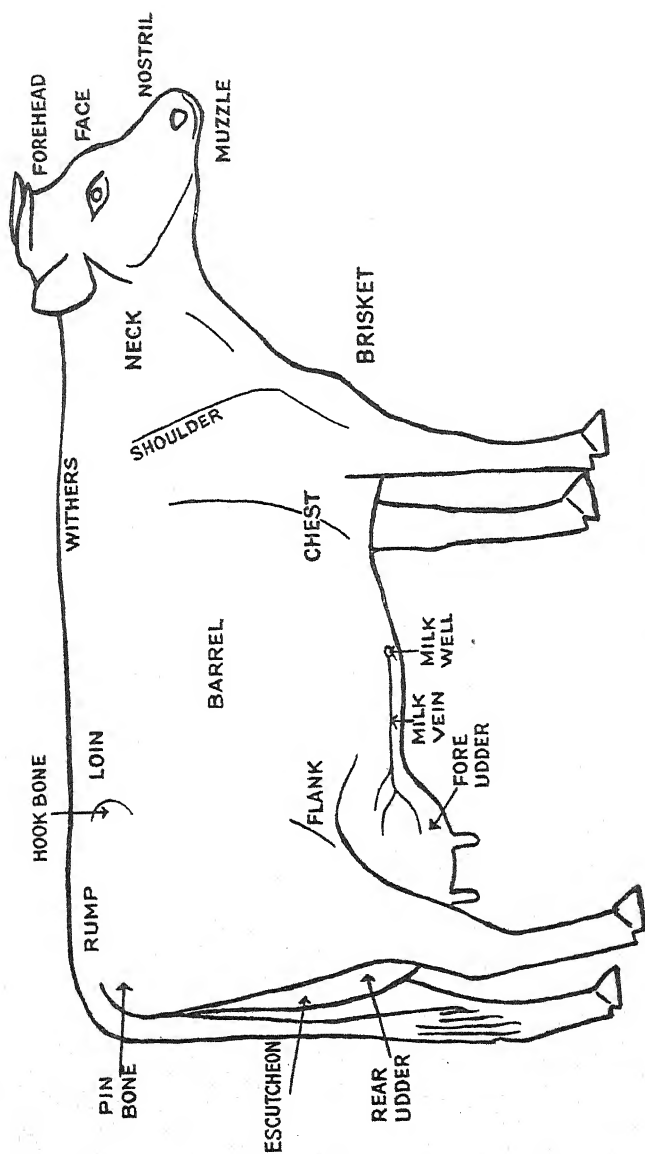
One of the earliest of these comparisons was made in 1916 by Aldrich and Dana (6). These investigators had noted that in the score cards issued by several American dairy cattle breed societies, from four to ten points were allotted to the milk veins and wells, and they proceeded to measure the length, crookedness,

and diameter of the milk veins and the size of the milk wells on over 600 cows and compared the results of these measurements with milk and fat yields. Incidentally they pointed out that the so-called milk veins are only two of the six veins which convey blood from the mammary glands in the udder back towards the heart. The degree of correlation between the measurements and the milk yields was studied by statistical methods and it was concluded that there was some correlation between the size of the milk wells and the milk yield, between the diameter of the milk veins and the milk yield, and there was a probability that cows with veins showing forks or extensions were somewhat better milk producers than those with a simpler milk vein system; no correlation was found between the length of the milk veins and milk yield. The relationship between the veins and wells and the quality of the milk was not studied.

A comparison by another method was made in 1920 by Gowen (7), who studied the conformation of 1,674 Jersey cows, as indicated by the score marks awarded to each cow by experienced judges, in relation to the actual milk yields. He found that the external characteristics which showed a distinctly significant relation to milk production were the following:—first, milk veins—large, tortuous and elastic; second, size and condition of the udder—large and not fleshy; third, size and shape of rear udder—well rounded and well out and up behind; and fourth, shape and size of barrel—deep, large paunch. Other characteristics, such as rump—long and level; head—lean, face dished, broad between the eyes; tail—thin and long, and back—straight to hip bones, showed no correlation with the actual milk yields of Jerseys.

Gowen's comparisons also led him to the important conclusion that the results of one week's milk recording is two-and-a-half times more accurate as an indication of milk yielding capacity than any study of the external conformation of the animal. In respect of butter-fat percentage, no relationship was found between any of the external characteristics studied and the percentage of fat in the milk. Gowen, however, did not study the degree of yellow pigmentation inside the ears, on the udder &c., which is often considered by breeders of Channel Island cattle to be associated with the colour and quality of the milk.

About 1928, Leroy in France (8) studied the length of head, size of barrel, spring of ribs, area of hind-quarters, length of tail, size of udder and milk wells and the amount of waxy secretion and came to the conclusion that, in addition to observation of these points, actual records of yield were essential to accurate judgment.



Points of a Dairy Cow.

Another aspect of the general question of the relationship of the conformation and anatomy of a dairy cow to her milk and butter-fat producing capacity has been studied by Swett and others of the American Bureau of Dairy Industry (9). Their method has been to study by measurements of size and capacity the external conformation and the size of the internal organs of a large number of dairy cows whose records of milk and fat production are known. They have also made a comparison by measuring and weighing the external features, internal organs and parts of the skeleton of a highly specialised dairy cow of the Jersey breed and of a noted prize winner of the Aberdeen Angus breed. They find that these two cows, though differing greatly in external appearance, did not show differences in weight and size of internal organs, apart from udder tissue, nor in skeleton structure, to indicate material differences in the work of the various organs. The differences in type and external appearance are due, on the beef side, to an inherent tendency to lay on flesh and fat, and, on the dairy side, to an inherent tendency to make milk, associated with udder development and absence of flesh and fat.

Further work on the relationship between conformation and milk yield was carried out by Garner on Friesian cows in Minnesota (10), and in this instance it is worthy of note that, though the investigation was made in the United States, the worker was an Englishman, thoroughly conversant with English methods and opinions in judging dairy cows. Garner measured some 461 Friesian cows with known milk records and, after a statistical study of the data, came to the conclusion that milk yield was significantly correlated with (a) length from withers to pins, (b) length from withers to hooks, (c) height at hooks, (d) height at pins, (e) circumference of chest, (f) circumference of barrel and (g) area of milk wells. There was almost significant correlation between milk yield and width at barrel, and also width at hooks.

Garner points out that, with the exception of the milk wells, all the above points also indicate the size of the cow, and indicate that the larger the Friesian cow, the greater will be her milk yield. He considers that the area of the milk wells is an excellent indicator of a cow's milk producing ability, and adds that farmers, with practice, may quickly find and measure milk wells with their fingers—a large milk well will take the tip of the middle finger of a normal man's hand. He adds that the area of the milk wells do not increase with the growth of cows over 4½ years, but with increased milk production.

The other points of conformation which were studied included length from hooks to pins, width at pins, width and depth of chest, wedge of barrel and double thickness of skin on

ribs and udder, and no significant correlation was found between any of these points and the milk yield. The relationship between points of conformation and the fat percentage of the milk was not investigated.

In a further study of this subject Gowen (11) gives additional results based on measurements of certain points on a large number of high-yielding Jerseys and concludes that in this breed, and also in the American Holstein-Friesian breed, live weight and size have a definite influence on quantity of production. Gowen considers that body features such as height at withers, heart girth, paunch girth, width at hips, body length and rump length taken individually are of little value as indicators of production, and neither live weight nor any other point of conformation is of any value as an indication of the percentage of fat in the milk. Where the ideal to be attained is quantity production of milk or butter fat he concludes that the following points of conformation are important:—"First, the cow should be of better than average weight for her breed and age; second, she should be of good wedge-shaped form, particularly in the region of the shoulders; third, her milk veins should be of good size; and fourth, her udder should be of good size and quality." He adds that "Time has brought about the inclusion in the animal husbandry text-books of many other points asserted on *a priori* grounds to be of significance in determining the cow's milk-secreting capacity. The effect of several of these points on milk secretion has been analysed, the results showing them to be without significance."

The relationship shown by the above investigations to exist between size and milk yield must not be taken to mean that large cows are necessarily superior in every respect to smaller cows of the same breed. There is evidence that the smaller cow may often be a more economical producer of milk when the quantity of food consumed is taken into account. One investigator states that the chief value of large animals is in the production of larger total yields and in the economy of the same production from an investment in fewer animals and the consequent decrease in overhead costs, rather than in the more economical use of foods by the larger animals. Another explains that where milk is sold without consideration of its fat content, a large cow producing medium or low-quality milk will bring in a larger income than a small cow producing milk of higher quality and that under such conditions the large cow is more profitable, not because of her size, but because her milk is sold at a higher price per unit of food value.

In addition to the points of conformation and size which are capable of being measured, attention has also been given to two other features possessed by dairy cows—the escutcheon

and the amount of yellow pigmentation—to determine to what extent these may be of value as indicators of quantity and quality in milk production.

The Escutcheon.—The development of the escutcheon system of judging by Guenon has already been referred to (p. 30). The escutcheon, or “milk mirror” as it is sometimes called, is the area on the rear of the udder and thighs where the hair grows upwards. Guenon noticed the differences in the growth of the hair on these parts and became convinced that these were the signs by which to distinguish good and bad cows. The explanation given was that the area of reversed hair indicates the termination of the arteries which supply the udder with blood—the greater the supply of blood, the larger the escutcheon.

Guenon classified escutcheons into 10 classes or shapes, and in each class there were six orders or sizes, also there were 10 spurious escutcheons. This total of 70 can be reduced to 32 shapes and sizes for practical purposes. In general, a wide escutcheon extending on to the thighs was held to indicate quantity of milk; a high escutcheon extending upwards to the vulva was held to indicate the length of the lactation period and fine hair with skin of a yellow colour possessing small scales of a fatty substance were held to indicate high quality milk.

The complexity of Guenon's classification was an initial handicap to the use of his method, and, as time has passed, less and less attention has been paid to the shape and size of the escutcheon, though the name is still often used by some breeders and in breed society publications. Careful investigations (12) (13), where the yield and quality of the milk and the escutcheons of numerous cows have been compared, have failed to reveal any more than chance agreements between the size and shape, and the production of milk and butter fat.

Skin Secretions.—In descriptions of the Channel Island and related breeds stress has usually been laid on importance of yellow secretions or pigmentation as shown by yellow colour of skin inside the ears, at the base of the horns, at the end of the tail and on the udder, teats and body generally, because these have been taken as indicating the production of milk of a yellow colour, and also the production of milk of a high fat content. The proportion of the marks allotted to secretion in the official scales of points of certain breeds has already been referred to on p. 33.

Hooper (14) has studied the amount and intensity of the colour secretions in 164 cows of the Jersey breed, whose milk and fat records were also known and came to the conclusion that there is no correlation in this breed between the amount of yellowness of the secretions and the amount of milk and butter

produced. In more extensive studies, Thomson (15), using a colorimeter to measure the intensity of colour in the milk of many cows of the Guernsey and other breeds, could find no relationship between abundant skin secretion and the yield of milk, or the percentage of fat in the milk, nor even between abundant skin secretions and the colour of the milk. Thomson also states that on numerous occasions cows with the highest skin secretions gave milk of low intensity of colour. From the findings of Hooper, Thomson and other investigators it would appear that abundant skin secretions are not necessarily associated with the power to transfer the pigment to the milk, and that the value of intensity of colour in these secretions has been very greatly overestimated in the judging of dairy cows. It is now well known that the proportion in the cow's diet of green foods rich in the yellow pigment, carotin, has a marked influence on the colour of the milk, cream and butter produced. Also, the unreliability of secretions as a guide to quality or colour of milk does not in the least lessen the value of quality and colour. The merits of a cow in these respects must, however, be determined by other means such as systematic tests of the milk itself for fat percentage and degree of colour.

Inferences from Experimental Work.—The summary given in the preceding pages of the experimental work directed to obtain information on the relationship, if any, between quantity and quality in milk yield, and numerous points of conformation, the escutcheon and skin secretions, shows that the "indicator value" of these features has been very greatly overestimated. No point of confirmation or other feature is of any value whatsoever within a breed as an indication of the fat percentage in the milk of any cow. A few external features, such as size, wedge-shape and the development of udder, milk veins and milk wells have some value as indicators of quantity of yield, but these features are very inferior in this respect to actual records of milk production. By inspection alone, directed to assess the signs of function, rather than to details of shape or conformity to a breed standard, we can generally select the heavy yielders from the poor yielders but we cannot tell "how good" or "how bad" any individual cow may be. We certainly cannot pick out the "best" dairy cow in a group of good cows solely by inspection.

It is, however, also necessary to consider what weaknesses there may be in the comparisons which have been made and whether a greater degree of correlation between inspection and production would not be obtainable by the study of external features from other aspects.

The points and features measured have been those usually specified in the written descriptions of the points of a dairy

cow, but inspection judging of cows consists of more than noting individual points; the judge must assess the merits of each animal as a whole and arrive at his decision after a careful consideration of the relative importance of the different characteristics, giving due weight also, in breed classes, to the degree of approximation to the recognised breed standards. The milk yields used for these investigations have been those for lactation periods and it may be argued that lactation records alone are not a sufficiently broad basis for checking the accuracy or value of inspection judging. The object of the latter is not merely to place a group of cows in the order of their milk production. Thus, depth of chest, girth behind the shoulders and width of nostrils are considered to denote lung capacity and good constitution; width and length of hindquarters are believed to provide a larger area for the udder; a level rump is thought to enable the udder to develop more uniformly from rear to front; an udder carried closely to the body would appear to be protected from chills and injuries, and teats placed well apart, pointing downwards and of convenient size, are certainly conducive to easy and efficient milking. Further, inspection judging must take account of those points, such as type of head, fineness and firmness of bone, freedom of action and general style and character, which denote all-round quality and "breeding."

As yet, no studies by measurements of the correlation between the points and the functions just mentioned have been reported. The results of investigations on these subjects, if satisfactory methods of measurement could be devised, would be of real value in providing further guidance for the selection of those animals which have the desirable qualities of good constitutions, well-protected udders and teats not liable to injury, in fact, those animals most likely to have a long and healthy life.

In general, therefore, although studies of the relationship between actual yields and many of the points usually considered to denote good production have shown the latter to be of little value, further investigation is necessary to determine more accurately the true value of those points associated with health, freedom from injuries, and breeding character.

English Practice in Judging.—It is of interest to consider the extent to which judging by inspection alone, by production alone and by inspection in conjunction with production are practised in this country.

A. *By Inspection Alone.*—(a) The judging of groups or classes of dairy cows, usually of the same breed, by inspection only is by far the commonest practice. The merits of each animal are assessed by inspection and handling on the part of the judge and a decision is arrived at according to the qualities possessed

by each animal at that time—little or no consideration is given to indications of past or future appearance.

(b) Sometimes the judge is allowed to obtain the additional knowledge gained by having the cows milked out before him so that he can see and handle the udders both full and empty. In view of the importance of the right kind and shape of udder to the efficiency of a dairy cow and the degree to which defects may be hidden when cows are judged only with full udders, it is most desirable that the practice of milking out before the final decisions are arrived at should be adopted to a much greater extent than at present. The lack of time is probably the greatest hindrance, but where this difficulty cannot be overcome, all concerned should realise that this important point has not received attention.

The result of the investigations referred to above make it obvious, and indeed it is often recognised, that the final placings by inspection only have little relation to the actual milk production capacity of the animals. It should, however, be universally recognised that the true dairy qualities of cows cannot be judged by inspection alone.

(c) Occasionally, as at the London Dairy Show, admission to certain classes is contingent on the cows having given not less than a specified yield of milk during the preceding lactation period or milk-recording year, and the animals present are then judged by inspection. This condition ensures that all competing animals have given evidence of possessing reasonable producing powers though the actual yields are not taken into account in the final placings.

B. By Production Alone.—(a) At many of the larger shows milking trial competitions are held, open to such cows as their owners care to enter, and awards are made on the quantity and quality of the milk produced in a 24-hour period, according to a scale of marks which also takes account of the lapse of time since calving. At the London Dairy Show, all cows and heifers entered for inspection must also compete in the milking trials so that at this show it is possible to compare the position each animal has gained on inspection with the number of marks gained in the milking trials.

(b) At some shows also butter tests are held in which those cows which are entered are judged according to the quantity and quality of the butter produced during a 24-hour period.

Occasionally an animal which has gained a high place in the milking trials or butter tests has not merited recognition by inspection and this illustrates the chief weakness of judging

cows by production only. Production records alone, whether for a day or a lactation period, do not supply enough information to enable the true value of a dairy cow to be assessed. They tell nothing about the shape and size of the udder and teats, the conformation in relation to constitution or capacity for food, the degree of approximation to the type desired in a breeding animal, and therefore, they cannot be accepted as the sole criterion of merit in a dairy cow.

C. By Inspection and Production.—(a) At some shows and particularly at the London Dairy Show, competitions for numerous prizes and trophies are organised on a basis which takes account of the merit of the animal as shown by inspection, by performance in the milking trials and sometimes also by the results of the butter tests.

(b) In other competitions organised by Milk Recording Societies individually and through their Central Council the final placings of the cows or of whole herds takes account of the quantity, and sometimes the fat percentage, of the milk produced in the latest lactation period or milk recording year, and also of the appearance as judged by an inspection of the animals at shows or at the farms of their owners. In one or two instances the production records over a period of successive years are taken into account.

In these competitions the relative importance attached to the production records and to the appearance in arriving at the final order of award shows considerable variation. The proportion of marks allotted to inspection may range from 30 to 50 per cent. of the total. Frequently also the percentage of fat in the milk does not receive sufficient attention.

These competitions, nevertheless, in spite of differences and omissions, come nearest to a balanced assessment of the dairy qualities of the individual animals and are, therefore, deserving of every encouragement. In so far as the true value of a dairy cow can best be judged by her performance over a period of years greater attention should be given to means whereby "aged merit" can be discovered and recognised.

The information given in the foregoing pages leads to the following conclusions and suggestions:—

(1) The true merits of a dairy cow cannot be ascertained by inspection alone. Nevertheless, as cows will no doubt continue to be judged solely by appearance for many years to come, the limitations of this method should be more clearly recognised and it should be supplemented by having the cows milked out before the Judge makes his final awards.

(2) The judging of cows by milk records alone, though placing greater stress on actual production and being, therefore, of great value, cannot be accepted as the sole method, because many important features relating to health, longevity and breeding, are not taken into account.

(3) Methods of judging based on production records and on conformation give the best measure of true dairy merit and these methods should be developed, careful attention being given to the relative values placed on appearance and on production.

(4) In view of the importance of known freedom from infectious diseases, admission to competitions should in the course of time be limited to those animals which can be certified as free from tuberculosis, contagious abortion and mastitis.

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MY FIRST VISIT TO THE DAIRY SHOW.

By ELDRED G. F. WALKER—"North Somerset."

I had been to Frome Cheese Show, met Mr. Jubal Webb, who was down from Lunnon Town, and heard that a wonderful Dairy Show was to be held up there, and I made up my mind that I would go and see it—but I had reckoned without Father. When I got back and just mentioned it, seemingly I can hear him now.

"You fernal vool young devil, thee want to go to Launnon Town thee doost, terrible place to go to, thee wost have thee pocket picked, thee wot, afore thees knows it. Or thee wost get in th' hands o them wenches and they'll strip thee, zo that thee hassn't thee shirt a left on thee back. An what bist thee gwaine to do then?"

But dear old Mother said, "James, I think we ought to let the boy go; he got to get out and learn a bit about the world," but Father answered, "Well, in all me born days I han't a bin to Lunnon, and I haint agwaine now, Brister be good enough vor I, and ought to be vor he, and if he goes to Lunnon and anything do happen to un, nur a penny o' mine shall he have, and as for letting un hae enny to go up with, he can walk rust."

I knew it was hopeless as far as Father went, but I had saved a bit from the holly and the gert kissing bush I had sold at Christmas, and there was one golden sovereign and two half-sovereigns in the corner of the drawer upstairs—and a shilling or two besides.

I had taken a heifer and calf into Bristol Market and I slipped up to the railway station to learn about the trains. There was an Excursion. It left Temple Meads in the middle o' the night and would get to London sometime in the morning, and it would leave London next night. It was half-a-sovereign return; we didn't talk of shillings in those days when gold was about.

Fancy! to spend a whole half-sovereign at once; it was something for a young fellow to do in those days. No wonder Father was mad, but I sort o' made up my mind, and to tell the truth, Mother didn't do very much to hold me back.

It was a wet sticky time, and I had to plough in the wheat in Clay Pits. Lawks! when I put one foot down I nearly had to pull the top off my boot to get it out again. Father knew right enough that if I wanted to get into Bristol

I would have to walk. And he didn't shift out of that plough field all day long. Why, he even sent Long Joe in to do the milking.

It was darkish when I got home and there I found that father had taken out my best suit of clothes, and either hid it or locked it up somewhere.

Poor Mother, she was sort o' vexed. But she sewed the sovereign in the lining of my waistcoat and a half-sovereign in my pocket. And she cut two big slices of bread, and cut two rashers of bacon and put between them and she had kept back a "crowdy pie." This about filled my coat pockets. And then I slipped out into the barn and put a handful of horse beans into each of my breeches pockets, so that if anybody got their hand in, they would only catch hold o' the beans and not my money. I well remember my rigout—dark coat and waistcoat, cord breeches and sheepskin leggings and a Jim Crow hat. It was either that or a boxer in those days.

Nine miles to Bristol station. It was cold, it was dark, and inclined to be sleety. But I was not going to carry an overcoat, not I. So with a parting word from Mother, "Take care of yourself, my boy, I shan't sleep a wink until you get back." I durnt look in on Father—I stepped out into the night.

There were no steam rollers to make one's ways smooth in those days, and the roads appeared to be all the rougher as one could not see the stones on them at night. Neither did vehicles carry any lights; anyway, I climbed the sides of Dundry, and nothing loth, I called in at the "Carpenter's Arms" for a pint of beer, threepence. I was served by a dapper little man—John Golding. A month or two ago he celebrated his ninetieth birthday, being the oldest Licensed Victualler in the West of England.

Then I had a wonderful view of the ruddy glow in the sky caused by the lights of Bristol. I began to feel a bit leggy as I trudged into the station.

Oh, that coach, it had narrow seats with strips of carpets tacked on to them. In the roof was a greasy, smelly, paraffin lamp that really did make darkness visible, and there we were seven aside in that little narrow dog-kennel of an excursion coach. And we were to stop at nearly every station on the way up. Goodness, despite the stuffiness of that carriage the cold got us. Right glad we were when we reached Swindon.

Here we had to stay ten minutes; all trains that went through Swindon station had to do this. Here we had Guin-

ness stout with three pennyworth of rum in it. This was conducive to personal warmth for the rest of the journey. When we arrived at Paddington we stepped out into a very cold world. How the wind swept along that platform!

But I was very interested in the scores of milk churns that were being unloaded from another train, and how they rattled as they were being rolled along the platform. From some of them a stream of milk spurted out. Then a couple of men caught hold of these big churns of milk and hoisted them shoulder high into big lorries. Then along came a couple of men, took the cover off one of the churns and dipped a beer mug into the milk. They then drank the jugful and put the cover back again.

Whilst I was looking on a railway porter recommended me to go to the "Load of Hay" and have something to eat, as it was a long way to the Show. I got there and found that the breakfast was a pint of beer, two red herrings, and a thick slice of bread with the most villainous butter that I had ever tasted. Someone said that it was fourth Corks. I did not know as much about butter in those days as I do now, else I should have known what that meant. Anyway those herrings created an intolerable thirst and that was where the landlord came in.

At last it was daylight, and I thought that my best way to see London was to walk to the Show. Everything was new and strange. There were four-wheeled cabs, others with the driver perched up on a little dickey box behind. I soon learnt that these were called hansom, and it was a mystery to me why, when the driver leant backwards, he did not lift the horse off its feet and suspend it in the air. And then I noticed that all the drivers were strapped into their seats lest the horses should pull them off. And how flat-footed those horses appeared to walk and trot. And oh! the rumble and roar of those streets quite gave me a headache. More and more traffic came on the streets. Horses slipped and fell down. The harness was unbuckled and they got up on their feet again.

A passer-by pointed out the Underground railway station, and said a train would take me to King's Cross. So I went down some dirty grimy steps. I would never have believed that there was anything so dirty in London as I stood on that platform and looked at the roof of the tunnel where the station was. I got into the train and, though it was daylight outside, lights were burning in that train and the stench of smoke was bad. The train started. And then we came to it—"Truly, it must be the place parson preached about on Sunday evening." There was the reflection of flames, afflickering in

smoke, so thick that I could not breathe. And talk about brimstone! When Policeman Willis used to bring his brimstone sticks to suffocate the bees for their honey, it was nothing like this. I coughed and my eyes smarted. So at the next station, I believe it was Gower Street, I got out, making up my mind that I would never venture into such a place again.

It must have been somewhere near St. Pancras when I enquired of a policeman, "How far is it to the Show?" "Too far for you to walk, young man—you'd better take a bus to the Angel."

Now I didn't quite like his reply. I thought of old Father at home and his warning against them London wenches, and here was a policeman telling I to take a bus to an Angel "What part of the country do you come from, young man?" I told un Somerset. "Well we have an old pensioner down that way named Hobbs, a queer stick." "Why that must be Billy Hobbs as lives in our parish," I said, "he was a policeman in London."

Then the policeman took more interest in me. "Anyone with you?" he asked. "No," said I. "Well there ought to be," he added, "London's a funny place for a young man from the country. Just you beware of anyone coming up and shaking your hand and offering to show you London. And you have walked from Paddington already?" "Yes." I thought the policeman wanted to know too much. "Now you take that bus that is coming along. It will take you round the Angel and drop you at the Hall. If you go up on top you will see more."

So up on that bus I got—well if that railway coach seat was a bit narrow it at least had some carpet on it. But this was little better than a flooring board, and my! wasn't it cold! It sent a shiver right up through me as I sat down on it. But what a view I had of the traffic of London.

The driver was a good fellow; he pointed out this and that. When we got to King's Cross the bus stopped and a boy brought out a trace horse, hitched it on, and chucked the reins up to the bus driver. And then we started to go up a long hill. Now that was the artfullest horse I had ever seen. Why he wouldn't have pulled the hat off my head. But he just managed to keep his head far enough through the collar to keep his hind quarters just out of reach of the slash of the bus driver's whip, who asked his brother drivers to drop their whips across that old horse's back as they were passing. And those bus drivers and the cab drivers were continually saying or shouting things to one another.

"See that big building over there," says the driver, pointing with his whip. "That's where they hang people. Mind

you don't get in there afore you go back." I thought this was so terrible that it fairly spoilt my appetite, and I was just beginning to feel right hungry. Then the bus stopped outside the Hall and I got down, paid my money and went in.

There were no big doors to keep the wind back then and the first thing that I saw were some rows of cows. And then I began to look at the people and they had such good clothes and such shiny boxer hats that I began to think that everybody's clothes must have cost a power of money.

Then I went into the eating-room and had a beef steak, and some Odzez, and they wanted three shillings and sixpence for it, and then said "remember the waiter." Two or three meals like this and I should not have a penny to go home with. I had begun to find out that it meant money to come to London. So I made up my mind to see more of the Show and eat less.

Then I saw such a lot of pretty girls in such lovely dresses, all a-churning. I thought, "what would their mothers say to them for doing that when they got back to the country?" There was one dressed all in blue with white embroidery. Well I couldn't keep my eyes off her and the sparkle of her gold locket and chain. And there was such a crowd of them young Londoners with their shiny hats and long tailed coats acrowding up and trying to talk to her. I heard that they were called "Johnnies" afterwards. And there was a gert big real farmer's wife a-thumping butter in an oak trendle and nobody appeared to be looking at she.

Then I saw the cheese. There was some that looked like a boxer hat that had been sat on; they were so full of wrinkles. And I noticed that when one of them was bored the inside of it was all a Blue Vinney like.

And then I saw Jubal Webb atalking to some of those farmers that I had seen at Frome Show. I could easily see that he was a big man in London; as he talked he was trying to buy some cheese off them. Then he sort o' zeed I. "So, young man, you have taken my advice and come up to the Show," says he. "Yes, Sir," says I. "I suppose you don't know very many." "No, nobody, Sir," says I. "Well, come along with me, but I think we will have some lunch first," says he. A cold shiver went through me as I thought of that three and sixpence, and "remember the waiter," that I had already paid. "No thank you, I have already had some." "Well you must have had a long journey and you must really lunch with me. You are in London now," says he.

Then Mr. George Gibbons came along. Everyone knew him down our way. "Oh Mr. Gibbons will come with us," says Mr. Webb. "Certainly," he said, "it will be a pleasure."

So I thought if George Gibbons be agoing I can't be wrong. So we went up into the eating-room again. But the table was so different. It was all set out with silver and glasses. And stiff starched neckerchiefs set out beside each plate. I just couldn't make out what they were for. Now I had seen oysters in a fishmonger's shop in Bristol, but I had never seen them opened on a plate before. And I didn't quite like the look of them. But I liked that glass of stout that went with them, and, as the others started swallowing those oysters, so did I. And I can still remember I thought they were not so bad.

Then the waiter brought a gert big bottle and put it on the table. Then he took it off and pulled out the cork with a bang and the inside came all bubbling and frothing out into the glasses. Lawks! I remember that it was even better tasted than the stout, and, as for our cider at home, that was not in it. Then George Gibbons whispered in my ear, "Be careful with that wine, it's much stronger than cider."

Out from that lunch and I was being introduced as the Young Man up from the country. Lawks! what a business I could have done. I learnt that milking cows were being kept and milked until they were fat, then they were killed in London. Many wanted me to send up some really good milkers from Somerset. One or two told me how they had dealings with Joe Bennet up in Gloucestershire, where they used to make those thin cheese like wheelbarrow wheels. And what astonished me was the prices they were inclined to pay. I must really tell Father about it when I got home, I thought.

And there were such lovely cows in the Show—far better than I had ever seen at home. There were some that were black and white, and I was told that these were Dutch (though at that time I could not make out why those Dutchmen should want to send their cows over to an English Show). And I can remember a Black Jersey and a sort of brownish coloured cow that was an Alderney.

Then I was introduced to such a dapper little smartly dressed man, a Mr. Barham, who bought ever such a lot of milk for London every day. But there were others that wanted milk as well as he, a Mr. Pocock, another named Tisdale, and Brooks of Islington. I made up my mind that it would be best to tell Father to sell his milk instead of making cheese or butter. But I thought different when I heard that they wanted 17 pints to fill a gallon in London.

Then there were those wonderful waggons and milk floats; they seemed to have come from all over England, and they were wonderfully painted and varnished thicker than

our front door was at home. And as for the brass on the harness that was shown with some of them, I had never seen so much "shiney" at one time ever before. And then I thought how bad it must be for those cows that came to London, as there were cattle medicine, drenches and bottles on show on all over the place. And how they did invite I to come in and have a drink. But I hadn't forgot Mother's advice to keep my money in my pocket.

Then there were such beautiful butter churns a-running on wheels and so different from the one that Old Cooper Carter had made for Father at home, and which I had to keep turning round once or twice every week. I must tell Mother about these churns and get her to buy one. And then I thought of what Father would say about it.

I looked around and found that George Gibbons was gone and the cheese factors that were there in the morning were gone. There seemingly was nothing more left for me to see. The herdsmen were shaking down more straw beside their beasts, and they told me that they were going to sleep beside them. I thought that this was just terrible in London. And then I noticed that one of them gave his two cows a quart of beer each, whilst another gave his cow some whiskey out of a bottle, and I can remember even now how she seemed to like it. Every cow appeared to be having something different for her supper beside the hay.

There were several hours to spend before I could get away home and I was feeling a bit leg weary. Now what had I seen to remember amongst the implements. There was neither a milking machine nor an oil, gas, or electric engine. Steam and horses were in the height of their supremacy. I have a dim recollection of seeing a very large round cheese tub, and some wooden cheese vats, with screws to either tighten or slacken them out. I know I saw wooden butter trendles but am not quite sure whether it was wooden or steel milking pails. Much fuss was made of a thermometer with a coloured tube for the quicksilver to run up and down. And there was a wonderful thing in which cold water was pumped in at the bottom and came out at the top for cooling milk, and I could not at first make out why they did not let the water run in at the top and out at the bottom.

Then I heard two of those herdsmen saying they were going to Drury Lane Theatre; there was something wonderful to see there. So out of the Hall I went and into the street; a jostling crowd was on the pavements, made dimly visible with those old gas lamps that gave their light as much up into the sky as down on the street. I enquired my way of every

policeman I met. There was no bus going that way so I continued to foot it.

At last I came to a big building, and the prices, they fairly frightened me. But I plucked up courage to go to the gallery. I had never climbed up so many steps in my life before. And when I got up top it was a case of no seat. See nothing, or stand.

When I came out it was after eleven o'clock, but the streets were full of people as though it was but middle day. I went down into the Strand and caught the bus. I had to ride outside because the inside was full. I was chilled to the bone, but tired and cold as I was I had a marvellous sight of the streets of London. It was truly wonderful to see the cabs and the hansoms with their lights either in a line or dodging about, and my, couldn't those cabbies smack their long handled whips. It seemed a terrible long time to get to the station.

And then I went to get a drink and something to eat, as I found that they kept the refreshment room open all night for travellers. And I had never seen such a tall girl with such a small waist in my life before as the one who stood behind the bar. She spoke to I, so civil-like, and axed if I was going back to the country. And how I had enjoyed myself in town, and she talked so that I had another pint of beer, and I don't know how long I should have stopped atalking to her, if she hadn't told me that my train would start directly, and when I got to it there was someone else in my corner seat. Then I had to fork out threepence for my share of the hot water thing and I didn't get my feet on it once all the way down. And didn't I think of that threepence for months afterwards! And then there was that cold narrow hard seat and the train in all of a wobble. Anyway, it rocked me off to sleep, and then somebody waked me up, with a terrible crick in my neck, and all of a shiver, by shouting Swindon.

Out we got and what a fuss there was before I got that pint of stout with half a noggin of rum in it! Some of the others had rum with milk in it. But being a Farmer's son, I didn't care about drinking milk then. Back into the train and there was no more sleep until I got to Bristol to find it black dark with a cold wind blowing. A look into the refreshment room, and then I set best foot forrard for those miles before I got home.

I did not like Bedminster Down. I had heard tell of people being stopped and robbed. But all that I met was the milk carts bringing in the warm milk from atop of Dundry, where they had had to milk the cows in the dark. After I had climbed that hill, I was right glad to see a light in John

Golding's window. He had just put in a batch of bread to bake. A pint of beer in the hooter with a bit of ginger in it and a real warm up by the fire, and I was ready to face the rest of the miles, though I knew that I had worn the skin off my toe with walking.

Well, it had just got grey light when I got home, and there was Father—he had just got the cows in. He looked at I and, "Theese come back bist, well thit lazy devil of a Jarge baint come, so theest better get them things off, get the pail and help milk them cows." And there was I expecting to be asked to tell of all the wonderful sights that I had seen in London and my first visit to the London Dairy Show. And not a word would Father allow me to say about my journey to London for months and months afterwards. Truly some may think that those were the good old days.

And now—October, 1937—a young farmer desired to see the Young Farmers' Judging competitions at the last Dairy Show. He helped milk the cows, changed, caught the first bus close to his farm gate, ten miles to Bristol, caught the train for London, had his breakfast in the train. Stepped out of the train at Paddington, found a moving stairway to take him down to the Underground, made a call on a friend, caught a bus that had him to the Hall in no time. He saw the wonderful display of many breeds of cattle, produce galore, cheese, butter, bacon; saw all the latest implements and utensils, milking machines, separators; had a run up around the Galleries, saw the marvellous show of poultry and pigeons and wondered at the amount of money invested in poultry appliances, incubators hatching thousands of eggs at a time, and he thought of the old hen sitting on her dozen eggs at home.

And then he sat down and watched the Young Farmers' Judging competitions. He could get a glass of milk in all the elegance of a milk bar.

In two hours from Paddington he was at Bristol, comfortably home by bus and enjoying his supper before 10 o'clock, and hearing his Father say, "I just wish I had went up with you." Fifty odd years does make a difference!

BODY MEASUREMENTS OF BRITISH BREEDS OF DAIRY CATTLE.

By STEPHEN BARTLETT, M.C., D.Sc.

At ten consecutive London Dairy Shows (1928 to 1937) records of type, size and production were collected of representative animals—i.e., first prizewinners—of each breed. Credit for initiating the collection of these records is due to Sir J. Q. Lamb, M.P., and the detailed organisation necessary at each show has been most ably carried out by Mr. W. F. Jessop.

The records have been published yearly in this Journal, and a sufficient number of body measurements are now available to justify the calculation of averages. Previous to the collection of records of prizewinners a number of measurements were made of animals exhibited at the four London Dairy Shows held in 1922, 1923, 1924 and 1925. These figures have never been published previously and they are, therefore, presented here as averages of each class exhibited at the shows.

In order to provide a comparison between the size of cattle of the present day with those of the past, extracts have been made from a book published in 1800, entitled "A description of the different varieties of Oxen common in the British Isles" by George Garrard.

METHODS OF MEASURING.

All the measurements of cattle at the London Dairy Shows were taken in the manner described in Vol. XLI of this Journal, viz., by callipers or tape, the cow standing in a natural position with the four legs forming a rectangle on a level floor. Each measurement is detailed below, and as many as possible are illustrated on the accompanying diagram. The letters on the diagram correspond to those of the subheadings for each measurement.

(a) *Length of body* was taken along the backbone from one of the pin bones to the withers, using an L-shaped measuring rod of the type used for recording the height of horses. The exact position on the withers of the front point used in this measurement was the forward points of the two shoulder blades near the backbone.

(b) *Length of hindquarters* from pin bones to hooks. The measuring rod recording total length of body was kept in position and a string stretched across the back connecting the front points of the hook bones; by this means the length of the hindquarters was noted on the measuring rod.

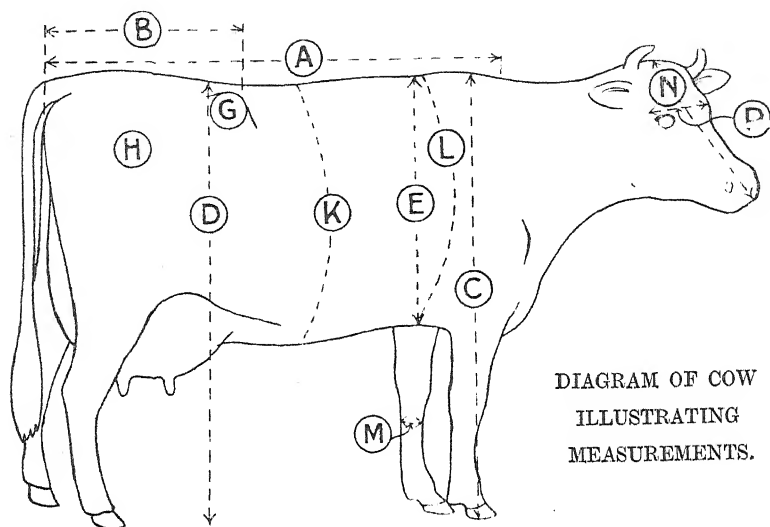


DIAGRAM OF COW
ILLUSTRATING
MEASUREMENTS.

(c) *Height at withers* was measured with an L-shaped rod fitted with plumb-bob to ensure an upright position.

(d) *Height at hooks* was obtained in the same manner, the exact spot being a point in the backbone directly between the hooks.

(e) *Depth of chest* was measured by callipers just behind the front legs.

(f) *Width of chest* was measured just behind the shoulders, the callipers being drawn fairly tight, but not sufficient to cause discomfort to the animal.

(g) *Width of hooks* indicates the measurement obtained by placing the callipers outside the hook bones.

(h) *Width of thurls* is the width of the hindquarters approximately at the point marked (H) in the diagram. The bones vary in prominence in different animals and breeds, but if not easily visible they can always be felt.

(k) *Girth of barrel* was measured by tape at the point of maximum size.

(l) *Girth behind shoulder* was measured by tape drawn approximately to the tightness required to extend a spring balance six pounds.

(m) *Girth of foreleg* was taken at the smallest point below the knee.

(n) *Length of head* was measured by tape from the base of the horns to the tip of the nose.

(p) *Width of head* was taken at the wide point just above the eyes.

The live weights of all cows were taken at the Show and since nearly all the cows exhibited had recently calved the weights were unaffected by pregnancy.

MEASUREMENTS OF FIRST PRIZEWINNERS, 1928-37.

All the animals dealt with in this article were among the best of their respective breeds, but those measured at the ten dairy shows, 1928-37, may be regarded as the peak of perfection judged by present day standards. The animals were all first prizewinners by inspection or in the milking trials in the mature cow classes at the leading dairy show of the country. Occasionally the same animal won both the first prizes in a class, *i.e.*, first by inspection and first in the milking trials, in which case only one animal was measured. The ages of the selected animals varied considerably, but the age restrictions of the show classes excluded all heifers and, in some breeds, all cows under the age of 5 years 3 months. The results of averaging each of the body measurements of the winners by inspection at the ten shows, 1928-37, are given in Table I, together with the mean age and live weight. The figures in this table, therefore, provide a useful indication of the size and shape of an ideal animal of each breed at the present day. A few breeds were not exhibited at every show and in these cases the number of animals recorded falls below the maximum of ten.

Table II deals in a similar manner with the corresponding winners of each breed in the milking trials. Comparison between Tables I and II indicates the extent to which the ideal inspection animals differed from the highest producers of milk at the shows. When drawing such comparisons it is necessary to realise that a few of the animals are included in both tables, *i.e.*, when the inspection and milking trial winner was the same animal. The number of such cases is noted in the two tables by the figures enclosed in brackets in the second column.

The average age of all breeds is 7 years 3½ months for inspection winners and 7 years 7 months for milking trial winners. Although the inspection winners are younger the individual breed averages show wider variations. These range from 5 years 6 months for the Lincoln Red, to 9 years 6 months for the South Devons, whereas, with the milking trial winners, the range is from 6 years 10 months for the Lincoln Red to 8 years 8 months for the South Devon and Kerry breeds.

The close similarity between the body measurements of the inspection winners and the milking trial winners of the same

breed makes it impossible to select any outstanding measurement as indicative of inspection or production features. The live weights in conjunction with the measurements, however, indicate one difference. The average live weight of all inspection winners is two pounds greater than that of the milking trial winners; while in regard to size the milking trial winners are slightly larger as judged by height and length of body. These results suggest that the inspection winners were, on the average, fatter animals, and verification of this was obtained from notes on the condition of each animal made at the time of measuring.

Comparison between the shape of breeds. The great variation between the average size of the largest and the smallest breeds makes comparison of shape somewhat difficult and in order to simplify this, Tables III and IV were prepared. In the preparation of these tables the average "height at withers" of each breed has been reduced to unity and the remaining body measurements calculated as a proportion of this height. Thus, if the average height at withers of a breed happened to be exactly 50 inches then for the purpose of Tables III and IV each of the body measurements of that breed would be divided by 50. Comparison between the shape of inspection winners (Table III) and the milking trial winners (Table IV) of the same breed shows the marked similarity already commented upon in Tables I and II. Perhaps the most interesting features of Tables III and IV are the differences in shape of the different breeds. Although these differences appear somewhat small they are much more reliable than visual observation. Some of the outstanding features in the shape of the breeds are:—The Shorthorns and Lincoln Reds are below the average in length of body, but above average in width of hindquarters; the Lincoln Reds, however, are slightly smaller in girth of chest. The British Friesians and Blue Albions are somewhat similar in shape to the Shorthorns, but are proportionately smaller in girth of barrel and chest as well as width of hooks. The outstanding features of the South Devons and the Devons are exceptional length of body and large heads. The Devons also possess great width and depth of chest and girth of barrel. The Red Polls are somewhat similar in shape to the Shorthorn, but are slightly deeper, yet more narrow, in body. The Welsh Blacks have large chest measurements, but otherwise conform closely to the average of all breeds. The outstanding feature of the Ayrshires is small chest measurements. The Guernseys and Jerseys are specially narrow in chest and hindquarters, also they possess the smallest bone in the foreleg. Kerries are below average in width of chest and in girth of barrel. Dexters possess exceptionally long and large bodies relative to height, also large heads; in these respects they somewhat resemble the South Devons.

MEASUREMENTS OF CATTLE EXHIBITED AT THE FOUR DAIRY SHOWS
—1922 TO 1925.

The cattle measured at the four dairy shows, 1922-1925, were an almost unselected sample of those exhibited, the only exception being at the 1922 show when the first, second and third prizewinners in the milking trials were selected. The animals measured at these four shows, therefore, were those which were considered by their owners to possess sufficient merit to justify attendance at the Dairy Show. It is probable that the standard of merit was only slightly inferior to the first prizewinners measured during more recent shows.

Average measurements for each class exhibited are presented in Table V. Table V (*a*) gives the measurements of the mature cow classes comparable in grouping with the breeds shown in Tables I and II. Table V (*b*) gives the measurement of the young cow classes and Table V (*c*) the heifers. No detailed comments will be made on the size of the young cows and heifers in Tables V (*b*) and (*c*), but they are of interest in connection with the rate of growth of various parts of the body. The fact that in some of the breeds the young cow classes are heavier and larger than the mature cow classes appears to be due to chance variations; there is little doubt that, as a general rule, the mature cows are heavier.

The mean measurements of mature animals in Table V (*a*) provide figures comparable with Tables I and II. No great change in size of cattle appears to have taken place in the intervening decade, but three breeds show a slight increase, viz., Ayrshires, Guernseys and Jerseys.

Further comparisons of changes in size of cattle exhibited at the Dairy Show may be made from analyses of the live weight such as those given in Table VI. This table deals with the mature cow classes only and was prepared to show the live weight of first prizewinners compared with the average live weight of all cows exhibited during the two periods reviewed here. These figures show clearly that first prizewinners tend to be heavier animals than the average of all those exhibited. During the period 1920 to 1926 the average live weight of all classes exhibited was 1,206 lbs., while that of the first prizewinners was 1,226 lbs. (inspection) and 1,220 lbs. (milking trials). During the period 1928 to 1937 the difference was much greater, viz., average of all classes 1,228 lbs., average of first prizewinners 1,263 lb. (inspection) and 1,261 lbs. (milking trials). It is probable that the first prizewinners, particularly those in the milking trials, were slightly larger than the average in size; it is also probable that the first prizewinners—particularly those by inspection—carried more flesh or fat than the average and

these differences have become more accentuated during the last ten years.

The average live weight of all breeds of cows exhibited increased from 1,206 lbs. during the 1920-26 period to 1,228 lbs. during the 1928-37 period. Possibly this also is due to an increased fatness of animals exhibited during recent years, but definite evidence on this point is not available.

MEASUREMENTS OF CATTLE OF 140 YEARS AGO.

Very few reliable measurements of cattle of past centuries are available. During the late 18th century, however, George Garrard collected measurements of some of the best cattle of the day and published the results in a remarkably consistent manner. The chief object appears to have been the preparation of scale models of cattle, and although the fate of the models is unknown, a few copies of the original book with plates and detailed measurements are still in existence.

Garrard's intention appears to have been the measurement of the best animals of that period. The selection of the animals for this purpose was probably made by himself in conjunction with the most famous breeders of the day. The basis of selection, however, was somewhat indefinite as shown by the following extract from the book. "The varieties of the Ox species found in the British Isles are numerous, twelve of the most distinct of which are given in this work. It has been a matter of some consideration and much delicacy to settle the precedence between the different varieties and the order of their succession; some claim it for those breeds the individuals of which have, at times, sold for the highest prices, others for the best workers, feeders, &c., but it is, perhaps, possible from the encouragement now given to researches of this nature that the point in question may eventually be determined."

The exact methods adopted for measuring the cattle are not stated, but a number of the measurements are self-explanatory and some are directly comparable with those of present day cattle already discussed. The weights given in these old records were dead weights so that no comparison with the live weights of modern cows has been attempted.

Extracts from Garrard's work showing body measurements of six well known breeds of dairy cattle are given in Table VII. The Holderness (Shorthorn) cow of that day was 59 inches high at the withers with other measurements correspondingly large. The present day Shorthorn is usually less than 53 inches in height and an interesting side light on the period at which the

reduction in size occurred is provided by the measurements of "An improved Shorthorn cow" published by Garrard in 1815, which gives the height at the withers as 56 inches.

All the other breeds noted in Table VII are probably larger at the present day than their remote ancestors, but the differences are much smaller than those noted for the Shorthorn breed.

SUMMARY.

Average body measurements and live weights of some of the best representatives of 13 breeds of British dairy cattle are presented and their special characteristics regarding relative shape are discussed.

TABLE I.—MEAN MEASUREMENTS OF EACH BREED—FIRST PRIZEWINNERS (INSPECTION), 1928-37.

Breed.	Number of Animals.	Age when Measured.		Live Weight.	Length of Body.	Hindquarters.	Height at Withers.	Height at Hooks.	Depth of Chest.	Width of Chest.	Width of Hooks.	Width of Thorns.	Girth at Barrel.	Girth Behind Shoulder.	Girth of Foreleg.	Length of Head.	Width of Head.
		Yrs.	Mths.	Lbs.	(g) ins.	(h) ins.	(c) ins.	(d) ins.	(e) ins.	(f) ins.	(g) ins.	(h) ins.	(k) ins.	(l) ins.	(m) ins.	(n) ins.	(p) ins.
Dairy Shorthorn (Pedigree)	...	6	7	1389	58.33	19.41	52.48	53.02	20.23	18.33	23.26	20.19	94.49	77.78	7.01	19.31	8.49
Dairy Shorthorn	...	6	0	1397	59.10	19.48	52.09	52.72	20.33	18.27	23.57	20.48	94.81	78.03	7.07	19.70	9.06
Lincoln Red	...	5	6	1376	59.02	19.55	52.03	53.51	20.37	17.67	23.53	20.40	92.88	77.12	7.33	20.38	8.77
British Friesian	...	7	5	1482	61.30	20.09	55.04	55.15	20.50	17.59	23.23	21.38	95.02	78.99	7.35	21.15	9.05
South Devon	...	6	6	1016	63.07	20.05	54.05	55.84	31.13	19.44	24.43	21.28	99.15	82.65	7.60	22.21	9.39
Devon	...	7	9	1364	57.85	19.05	50.42	51.25	20.32	18.62	23.10	19.00	96.15	78.37	7.07	19.75	8.45
Red Poll	...	7	1	1336	57.08	19.37	51.27	51.70	20.33	18.13	22.77	19.13	92.24	77.11	7.01	19.44	8.85
Blue Aldon	...	7	4	1252	50.00	19.22	52.72	53.28	28.85	16.68	22.88	19.72	90.00	75.02	7.02	20.10	9.00
Welsh Black	...	7	9	1346	57.90	19.28	51.08	51.74	20.04	18.80	23.30	19.54	88.96	76.76	7.34	19.18	9.42
Ayrshire	...	6	11	1299	58.58	19.32	52.07	52.58	20.07	15.78	22.53	19.81	93.33	74.47	7.07	20.47	8.86
Guernsey	...	7	0	1122	57.00	19.31	50.36	50.81	28.28	14.53	20.00	17.98	88.39	71.32	6.44	19.55	8.47
Jersey	...	6	9	939	54.34	18.04	48.09	47.22	26.07	13.51	19.58	16.30	86.49	66.73	5.94	18.07	8.23
Kerry	...	9	0	996	54.34	17.89	48.10	49.11	27.07	14.71	20.60	16.04	82.06	69.03	6.34	19.16	8.36
Dexter	...	7	6	774	47.28	16.01	40.13	40.86	24.07	14.28	17.91	15.50	77.82	62.80	6.20	17.14	8.39
MEAN OF ALL BREEDS	...	7	3½	1263	57.45	19.07	50.84	51.34	28.66	16.88	22.24	19.12	90.92	74.73	6.01	19.69	8.82

TABLE II.—MEAN MEASUREMENTS OF EACH BREED—FIRST PRIZEWINNERS (MILKING TRIALS), 1928-37.

Breed.	Number of Animals.	Age when Measured.		Live Weight.	Length of Body.	Length of Hindquarters.	Height at Withers.	Height at Hooks.	Depth of Chest.	Width of Chest.	Width of Hooks.	Width of Thumbs.	Girth of Barrel.	Girth Behind Shoulder.	Girth of Foreleg.	Length of Head.	Width of Head.
		Yrs.	Mths.	lbs.	(a) ins.	(b) ins.	(c) ins.	(d) ins.	(e) ins.	(f) ins.	(g) ins.	(h) ins.	(i) ins.	(j) ins.	(m) ins.	(n) ins.	(p) ins.
Dairy Shorthorn (Pedigree)	10(2)	7	0	1428	59.58	19.79	53.62	54.22	29.63	18.05	23.92	20.48	95.66	78.91	7.20	20.37	9.00
Dairy Shorthorn (Non-pedigree)	10(2)	7	0	1446	59.75	19.79	53.37	53.85	29.89	19.10	24.01	20.51	95.23	78.99	7.14	20.45	8.89
Lincoln Red	10(3)	6	10	1397	60.13	19.95	53.77	53.80	30.15	17.23	23.46	20.48	92.89	77.88	7.38	20.18	8.74
British Friesian	10(3)	7	3	1479	61.24	20.19	54.98	55.30	29.58	17.43	23.30	21.27	94.99	79.06	7.43	20.12	9.02
South Devon	10(4)	8	8	1625	63.22	20.85	54.97	56.02	31.30	18.70	24.06	21.17	100.47	82.63	7.60	21.85	9.25
Devon	4(4)	7	6	1371	57.45	18.65	49.68	50.55	29.08	19.20	23.00	18.98	96.30	78.80	7.08	19.82	8.78
Red Poll	10(4)	7	0	1309	57.04	19.17	51.20	51.67	29.12	17.97	22.50	19.03	91.77	70.43	7.02	19.71	8.96
Blue Albion	4(3)	7	1	1232	59.38	18.88	53.08	53.70	28.82	16.52	23.10	19.78	88.68	74.48	7.05	20.40	9.08
Welsh Black	5(4)	7	0	1351	57.70	19.24	50.98	51.70	29.04	18.94	23.06	19.72	90.08	77.60	7.36	19.34	9.14
Ayrshire	10(3)	7	11	1252	58.32	19.14	51.88	52.42	28.88	15.55	22.42	19.47	91.43	73.81	6.99	20.20	8.66
Guernsey	10(6)	8	1	1130	57.86	19.08	51.43	51.37	28.34	14.79	21.20	17.82	87.49	71.80	6.45	19.85	8.52
Jersey	10(2)	7	1	915	54.38	18.06	48.09	47.66	26.67	12.94	19.44	16.51	85.44	66.23	5.94	17.68	8.34
Kerry	7(5)	8	8	965	54.36	17.87	48.24	49.14	27.03	14.41	20.43	16.76	82.11	68.61	6.26	18.97	8.11
Dexter	7(1)	9	0	748	47.44	16.00	41.33	41.90	24.26	14.23	17.47	15.10	78.06	63.00	6.16	17.19	8.49
MEAN OF ALL BREEDS	...	7	7	1261	57.70	19.05	51.19	51.66	28.72	16.79	22.24	19.08	90.80	74.88	6.93	19.89	8.78

TABLE III.—RELATIVE MEASUREMENTS OF FIRST PRIZEWINNERS—INSPECTION, 1928-37—WHEN THE “HEIGHT AT WITHERS” IS UNITY.

Breed.	Length of Body.	Length of Hindquarters.	Height at Withers.	Height at Hooks.	Depth of Chest.	Width of Chest.	Width of Hooks.	Width of Thurls.	Girth of Barrel.	Girth Behind Shoulder.	Girth of Foreleg.	Length of Head.	Width of Head.
Dairy Shorthorn (Pedigree)	1.11	0.370	1.0	1.01	0.557	0.349	0.443	0.385	1.80	1.48	0.134	0.368	0.171
Dairy Shorthorn (Non-pedigree)	1.13	0.374	1.0	1.01	0.563	0.351	0.452	0.393	1.82	1.50	0.136	0.378	0.174
Lincoln Red	1.11	0.369	1.0	1.01	0.555	0.334	0.445	0.385	1.75	1.46	0.138	0.385	0.166
British Friesian	1.11	0.365	1.0	1.00	0.554	0.320	0.422	0.388	1.73	1.44	0.134	0.384	0.164
South Devon	1.15	0.381	1.0	1.02	0.567	0.354	0.445	0.387	1.80	1.50	0.138	0.404	0.171
Devon	1.15	0.378	1.0	1.02	0.582	0.369	0.458	0.377	1.91	0.55	0.140	0.392	0.178
Red Poll	1.11	0.378	1.0	1.01	0.572	0.354	0.444	0.378	1.80	1.50	0.137	0.379	0.173
Blue Albion	1.12	0.365	1.0	1.01	0.547	0.316	0.434	0.374	1.71	1.42	0.133	0.381	0.171
Wash Black	1.13	0.377	1.0	1.01	0.569	0.368	0.456	0.383	1.74	1.50	0.144	0.375	0.179
Ayrshire	1.13	0.371	1.0	1.01	0.558	0.363	0.433	0.380	1.79	1.43	0.136	0.393	0.170
Guernsey	1.13	0.383	1.0	1.01	0.561	0.289	0.409	0.357	1.76	1.42	0.128	0.388	0.168
Jersey	1.13	0.375	1.0	0.98	0.555	0.281	0.407	0.339	1.80	1.39	0.124	0.376	0.171
Kerry	1.13	0.372	1.0	1.02	0.563	0.306	0.428	0.352	1.73	1.44	0.132	0.398	0.174
Dexter	1.18	0.399	1.0	1.02	0.600	0.356	0.446	0.386	1.94	1.56	0.154	0.427	0.209
MEAN OF ALL BREEDS	1.13	0.376	1.0	1.01	0.565	0.332	0.437	0.376	1.79	1.47	0.136	0.388	0.174

TABLE IV.—RELATIVE MEASUREMENTS OF FIRST PRIZEWINNERS—MILKING TRIALS, 1928-37—WHEN THE “HEIGHT AT WITHERS” IS UNITY.

Breed.	Length of Body.	Length of Hindquarters.	Height at Withers.	Height at Hooks.	Depth of Chest.	Width of Chest.	Width of Hooks.	Width of Thurls.	Girth of Barrel.	Girth Behind Shoulder.	Girth of Foreleg.	Length of Head.	Width of Head.
Dairy Shorthorn (Pedigree)	1.11	0.369	1.0	1.01	0.558	0.337	0.446	0.382	1.78	1.47	0.134	0.380	0.168
Dairy Shorthorn (Non-pedigree)	1.12	0.371	1.0	1.01	0.560	0.358	0.450	0.384	1.78	1.48	0.134	0.383	0.167
Lincoln Red	1.12	0.371	1.0	1.00	0.561	0.329	0.436	0.381	1.73	1.45	0.137	0.375	0.163
British Friesian	1.11	0.367	1.0	1.01	0.558	0.317	0.424	0.387	1.73	1.44	0.135	0.384	0.164
South Devon	1.15	0.379	1.0	1.02	0.569	0.340	0.438	0.385	1.83	1.50	0.138	0.397	0.168
Devon	1.16	0.375	1.0	1.02	0.585	0.386	0.463	0.382	1.94	1.59	0.143	0.399	0.177
Red Poll	1.11	0.374	1.0	1.01	0.569	0.351	0.439	0.372	1.79	1.49	0.137	0.385	0.175
Blue Albion	1.12	0.356	1.0	1.01	0.543	0.311	0.435	0.373	1.67	1.40	0.133	0.384	0.171
Welsh Black	1.13	0.377	1.0	1.01	0.570	0.372	0.452	0.387	1.77	1.52	0.144	0.379	0.179
Ayrshire	1.12	0.369	1.0	1.01	0.557	0.300	0.432	0.375	1.76	1.42	0.135	0.389	0.167
Guernsey	1.12	0.371	1.0	1.00	0.551	0.288	0.412	0.346	1.70	1.40	0.125	0.386	0.166
Jersey	1.13	0.376	1.0	0.99	0.555	0.270	0.404	0.343	1.78	1.38	0.124	0.368	0.173
Kerry	1.13	0.370	1.0	1.02	0.560	0.299	0.424	0.347	1.70	1.42	0.130	0.393	0.168
Dexter	1.15	0.387	1.0	1.01	0.587	0.344	0.423	0.365	1.90	1.52	0.149	0.416	0.205
MEAN OF ALL BREEDS	1.13	0.372	1.0	1.01	0.562	0.328	0.434	0.372	1.78	1.46	0.136	0.387	0.172

TABLE V.—MEAN BODY MEASUREMENTS OF A PROPORTION OF THE ANIMALS EXHIBITED IN EACH CLASS AT THE FOUR LONDON DAIRY SHOWS, 1922 TO 1925.

Breed.	Age Restrictions of Class.	Number of Animals Measured.	Mean Age when Measured.		Live Weight.	Length of Body.	Length of Hindquarters.	Height at Withers.	Depth of Chest.	Width of Chest.	Width of Hooks.	Width of Thurls.	Girth of Barrel.	Girth Behind Shoulder.
			Yrs. Mths.											
			Yrs.	Mths.										
<i>(a) Mature Cow Classes.</i>														
Dairy Shorthorn (Pedigree)...	Over 5 years 3 months ...	9	7	2	1288	58.36	18.58	52.63	28.97	18.09	23.12	19.48	91.50	77.83
Dairy Shorthorn (Non-pedigree)	Any age ...	4	6	8	1494	60.72	19.55	53.68	29.98	17.72	23.58	20.42	94.58	79.25
Lincoln Red ...	Any age ...	10	7	5	1423	61.13	19.35	53.04	29.77	17.97	23.66	20.68	94.31	78.40
British Friesian ...	Over 5 years 3 months ...	18	6	11	1410	60.10	19.15	54.63	30.13	17.72	23.48	20.89	94.21	78.08
South Devon ...	Any age ...	9	7	8	1526	61.81	19.29	55.22	30.61	19.12	23.78	21.09	95.06	80.57
Devon ...	Any age ...	11	6	8	1322	57.68	18.75	50.78	28.73	18.59	22.79	19.90	90.36	76.46
Red Poll ...	Over 5 years 3 months ...	11	7	6	1221	56.92	18.25	49.83	28.06	16.88	21.77	18.65	89.75	73.53
Blue Albion ...	Any age ...	7	5	3	1323	59.34	18.94	52.77	29.06	17.03	22.77	19.87	88.86	76.07
Welsh Black ...	Any age ...	5	5	1	1192	58.92	18.50	51.70	28.74	16.64	22.00	18.80	84.40	73.90
Ayrshire ...	Over 3 years 3 months ...	30	6	6	1189	57.53	18.26	50.78	28.33	15.69	21.80	18.51	88.70	72.27
Guernsey ...	Over 5 years 3 months ...	7	6	8	993	55.96	18.46	49.49	27.49	14.41	20.30	17.26	83.39	69.06
Jersey ...	Over 5 years 3 months ...	15	7	1	823	53.08	17.33	47.43	26.18	13.39	19.07	16.29	82.39	65.41
Kerry ...	Any age ...	25	7	4	913	54.05	17.17	47.68	26.17	14.25	19.67	16.35	79.44	67.10
Dexter ...	Any age ...	8	7	2	713	47.24	15.20	40.60	23.91	14.01	17.46	14.93	77.73	62.25
MEAN OF 14 MATURE COW CLASSES.														
	... ..	—	6	9½	1202	57.35	18.34	50.73	28.30	16.54	21.80	18.79	88.19	73.58

TABLE V.—MEAN BODY MEASUREMENTS OF A PROPORTION OF THE ANIMALS EXHIBITED IN EACH CLASS AT THE FOUR LONDON DAIRY SHOWS, 1922 TO 1925.—Continued.

Breed.	Age Restrictions of Class.	Number of Animals Measured.	Mean Age when Measured.		Live Weight.	Length of Body.	Length of Hindquarters.	Height at Withers.	Depth of Chest.	Width of Chest.	Width of Hooks.	Width of Thurls.	Girth of Barrel.	Girth Behind Shoulder.
			Yrs.	Mths.										
<i>(b) Young Cow Classes.</i>														
Dairy Shorthorn (Pedigree)...	3½ to 5½ years ...	12	4	6	1337	58.46	18.84	52.72	29.32	17.90	23.47	20.17	91.97	78.66
British Friesian ...	3½ to 5½ years ...	20	4	7	1417	60.15	19.15	54.52	29.77	17.98	23.26	20.90	93.65	77.28
Red Poll ...	3½ to 5½ years ...	6	4	3	1173	55.95	18.63	50.12	28.48	16.88	21.62	18.83	85.92	74.08
Guernsey ...	3½ to 5½ years ...	9	4	0	942	54.80	18.14	49.46	27.03	14.28	20.19	17.23	83.41	68.37
Jersey ...	3½ to 5½ years ...	16	4	0	865	52.86	17.43	47.69	26.11	13.58	19.25	16.41	80.45	65.48
<i>(c) Heifer Classes.</i>														
Dairy Shorthorn (Pedigree)...	Under 3 years 3 months ...	11	2	9	1153	55.50	18.09	51.44	28.89	16.99	21.62	19.06	88.45	74.94
Dairy Shorthorn (Non-pedigree)	Under 3 years 3 months ...	1	3	1	1268	56.30	17.90	49.70	29.20	19.50	22.60	19.50	91.20	77.20
Lincoln Red ...	Under 3 years 3 months ...	10	3	1	1161	56.30	18.41	51.59	27.72	15.77	21.62	19.32	85.50	73.04
British Friesian ...	Under 3 years 3 months ...	7	2	7	1277	57.99	18.60	54.43	28.89	17.07	22.30	20.63	88.56	75.70
Red Poll ...	Under 3 years 3 months ...	15	2	7	1096	54.74	17.82	49.53	27.06	16.55	20.52	18.09	83.19	71.39
Ayrshire ...	Under 3 years 3 months ...	36	2	9	1060	54.68	17.53	53.36	27.19	15.59	20.91	18.22	84.61	70.03
Guernsey ...	Under 3 years 3 months ...	7	2	9	882	53.16	18.23	49.49	26.16	13.97	18.61	16.47	78.81	67.30
Jersey ...	Under 3 years 3 months ...	10	2	5	724	50.21	16.39	46.62	24.86	11.96	17.55	15.60	75.99	61.45
Kerry ...	Under 3 years 3 months ...	9	2	9	750	50.77	16.61	46.96	24.58	13.30	17.90	15.84	73.77	63.27
Dexter ...	Under 3 years 3 months ...	8	2	6	538	42.15	13.90	38.79	21.98	12.63	15.31	13.91	68.75	57.38

TABLE VI.—LIVE WEIGHTS OF COWS OF EACH BREED EXHIBITED AT LONDON DAIRY SHOWS.

Breed.	All Mature Animals exhibited at—				First Prize Winners only at—			
	7 Shows, 1920-26.		10 Shows, 1928-37.		7 Shows, 1920-26.		10 Shows, 1928-37.	
	Number of Animals.	Mean Live Weight.	Number of Animals.	Mean Live Weight.	Inspection.	Milking Trials.	Inspection.	Milking Trials.
		lbs.		lbs.	lbs.	lbs.	lbs.	lbs.
Dairy Shorthorn (Pedigree.)	98	1378	113	1389	1404	1384	1389	1428
Dairy Shorthorn (Non-pedigree)	77	1366	59	1371	1438	1447	1397	1446
Lincoln Red	55	1374	66	1417	1375	1377	1376	1397
British Friesian	100	1385	114	1420	1434	1391	1482	1479
South Devon	22	1558	64	1548	1622	1579	1616	1625
Devon	36	1273	18	1370	1305	1254	1364	1371
Red Poll...	60	1211	83	1268	1284	1215	1336	1300
Blue Albion	18	1334	9	1251	1374	1379	1252	1232
Welsh Black	9	1316	19	1231	1131	1178	1346	1351
Ayrshire	59	1160	128	1218	1145	1145	1299	1252
Guernsey	49	1639	58	1607	1637	1606	1122	1130
Jersey	123	853	109	924	879	904	939	915
Kerry	61	917	31	936	947	944	996	965
Dexter	24	718	44	746	793	780	774	748
MEAN OF ALL BREEDS		1206		1228	1226	1220	1263	1261

TABLE VII.—MEASUREMENTS OF CATTLE OF THE LATE 18TH CENTURY.
Extracts from "A Description of the Different Varieties of Oxen Common in the British Isles"—by George Garrard.—
Published in the year 1800.

	Holderness (Cow (Shorthorn).	Improved Shorthorn " Juno."	Devon Cow.	Suffolk Polled Cow.	Dumlop Cow (Ayrshire.)	Albion (Cow (Channel Islands.)	Kerry Cow.
Height of the Hindquarters	ins. 60	ins. 57½	ins. 48	ins. 48	ins. 50	ins. 45½	ins. 44
" " Shoulder	50	56	47	47½	48	44	41¾
" " Knee	15	15	13	13	13	12	12
" " Hock	23	20	17	17	17½	18	15
From Ground to the Brisket	24½	22	19	16½	16	16	18
" " " Chest	26	24	20½	19	17	17½	19½
Length of or from :—							
Rump to the Extremity of the Hip Bone	20	26	21½	21½	22	18½	19
" " Bone to the Tail	28	32	31½	31	26	20	26
" " Fore	23	28	19	18	17	17	16½
" " Horn	13	16½	12	—	9	6½	10
Round the Chin	20	20½	17	19	17	16½	16
Cheek and Forehead	42	39	35	40	35	34½	32
Neck	36	35½	30	33	27	27	26
Chest	87	82	71	61	69	65	63
" " "	141	13	11	11	101	10	10
Bone of Foreleg	8	6½	6½	7½	6½	5½	6½
Coronet of Fore Foot	15	11	12	13½	9	10½	9
" " "	19	16	13	15½	12½	11½	13
Bone of Hind Leg	9½	8½	7½	8	7½	6½	7
Coronet of Hind Foot	14	12	11½	11½	10	10	9
" " "	6½	5½	6½	—	4½	4½	5½
Breadth of the Face Across the Eyes	8	7½	7	10	7½	8	8
" " Hips	27½	24	22	23	18	18½	18
Girth Over the Rib	130	—	—	—	—	—	—
Herd from which Animal was chosen	H.M. the King's Herd at Frogmore.	Mr. Robert Colling, of Darlington.	The Earl of Essex's Herd, bred by Mr. White Parsons, of West Camel.	Mr. Whitebread's Dairy at Southill.	Lord Gwydir's Herd at Glamthorpe Castle.	Lord Stawell's Herd.	The Herd of Mr. Herbert, of Hewness.

THE ELEVENTH WORLD'S DAIRY CONGRESS—BERLIN, 1937.

REPORT BY THE BRITISH DAIRY FARMERS' ASSOCIATION'S DELEGATES.

- I. Representation, Organisation and Recommendations.
- II. Section I.—Milk Production. Summary of Topics 1, 2 and 3.
- III. Section I.—Summary of Topics 4a and 4b.
- IV. Section II.—Milk Processing, Treatment and Improvement in Quality.—Summary.
- V. General Impressions.

Representation.—The 11th World's Dairy Congress was held in Berlin from Sunday, August 22nd, to Friday, August 27th, 1937.

The international character of the Congress was demonstrated most effectively on this occasion by the fact that there were present representatives from 53 nations. The total number of members of the Congress was 3,760. Naturally, Germany, as the home of the Congress on this occasion, had the largest number of members, viz., 1,579, and four other countries were each represented by over 200 members; these were Austria, 230; Great Britain, 225; Denmark, 224; and Czechoslovakia, 217.

The arrangements for the representation of the dairy industry of Great Britain were undertaken by the British Dairy Farmers' Association in its capacity as the body representing the International Dairy Federation in this country. The British delegation to the Congress was led in most able manner by the Earl of Iveagh, C.B., C.M.G.

Organisation.—The organisation of the Congress reflected the greatest credit on the German Ministry for Food and Agriculture and the Committees responsible for the various sections. It is only possible to give a brief résumé of the chief features and these will be dealt with under the following heads:—

- Subjects for papers and discussion.
- Educational visits and tours.
- Social events.
- International dairy exhibition.
- International quality show for dairy products.
- Resolutions and suggestions.

SUBJECTS FOR PAPERS AND DISCUSSION.

These were grouped into four sections with appropriate topics as set out below, and the number of papers presented to each section, together with the titles of those contributed by British workers, are also given. It is believed that this method will help to convey to British readers some impression of the scope of the Congress and of the part played by their representatives.

Section I.—Milk Production and Tropical Dairying.

Topic 1.—Application of milk tests from the standpoint of breeding and feeding.—20 papers.

Papers from Britain :—

“The protein requirements of dairy cows for milk production.” Bartlett, Huthnance and Mackintosh.

“The use of milk records in the feeding and breeding of dairy cows.” Mackintosh.

“Variations in the milk yields of the daughters of different bulls.” Buchanan Smith and Robison.

Member of section committee and co-reporter for topic, J. Mackintosh.

Topic 2.—Feeding of dairy cattle on home produce.—30 papers.

Paper from Britain :—

“The value of silage and artificially dried grass in the feeding of the dairy cow.” Watson.

Topic 3.—Importance of stable (cowshed) hygiene, due regard being given to costs.—11 papers.

Topic 4a.—Distribution, prevention and eradication of Abortus Bang (Brucellosis).—7 papers.

Paper from Britain :—

“The eradication of bovine contagious abortion.” Doyle.
General reporter for topic, Prof. G. H. Wooldridge.

Topic 4b.—Prevention and treatment of tuberculosis and other diseases.—9 papers

Papers from Britain :—

“The effect of proved sub-clinical mastitis on the manufacture and quality of Cheddar cheese.” Mattick, Davies and Dearden.

“Hoven, or Bloat, in dairy cattle.” McCandlish.

Topic 5.—Topical dairying.—8 papers.

Section II.—Milk Processing, Treatment and Improvement in Quality.

Member of section committee, Dr. T. J. Drakeley.

Topic 1.—Defective milk from a practical and scientific standpoint.—16 papers.

Papers from Britain :—

“The fishy flavour of milk on feeding beet by-products.”

Davies.

“The chemical composition of milk low in solids-not-fat.” Davies.

“Some recent work on experimental modification of the chemical composition of milk.” Kay and Folley.

Topic 2a.—Development of the aroma.—14 papers.

Paper from Britain :—

“The development of aroma in butter.” Davies.

Topic 2b.—Keeping qualities of butter.—14 papers.

Paper from Britain :—

“Some factors influencing the keeping quality of butter.” Davies.

Topic 3.—Pasteurisation of milk for cheesemaking, with due regard to the different kinds of cheese.—21 papers.

Paper from Britain :—

“Some observations on the influence of pasteurisation of milk in Cheddar cheesemaking.” Taylor.

Topic 4a.—The utilisation of surplus milk for the manufacture of concentrated milks.—6 papers.

Paper from Britain :—

“Recent investigations into certain problems connected with condensing and drying of milk.” Howat, Jackson and Nichols.

Topic 4b.—The utilisation of skim milk, buttermilk and whey.—16 papers.

Paper from Britain :—

“Utilisation of whey and buttermilk in England.” Capstick.

Topic 5a.—The improvement of the quality of milk and milk products (routine chemical and bacteriological control and competitions).—38 papers.

Paper from Britain :—

“Modern methods of control of market milk.” Anderson.

Topic 5b.—Modern methods of examination.—29 papers.

Papers from Britain :—

“Milk phosphatase and the phosphatase test for efficiency of pasteurisation of milk.” Kay.

“The work of the British Standards Institution in the standardisation of analytical methods and glassware for use in the dairy industry.” Kay.

Section III.—Legislation, Sale of Milk and Milk Products, Marketing, Business Management Dairy Education.

Topic 1.—Legislation from an international point of view concerning manufacture of, trade in and analysis of processed cheese and milk powder.—5 papers.

Topic 2.—Sale of milk and milk products.—19 papers.

Papers from Britain:—

“Marketing of milk products in England, Wales and Scotland.” Gosney.

“Milk prices in England and Wales.” Pringle.

Topic 3.—Methods employed in the hygienic production of milk in various countries.—Report from the International Dairy Federation.

Topic 4.—Organisation of dairies (private, co-operative and limited companies).—11 papers.

Paper from Britain:—

“Co-operative development in the marketing of milk and dairy produce in Great Britain.” Walworth.

Topic 5.—Dairy education; scientific and practical training in dairy schools.—18 papers.

Paper from Britain:—

“Dairy education in England and Wales.” Holmes.

Co-reporter for topic, Mr. J. Holmes.

Topic 6.—Nutritive value of milk and milk products and instruction and propaganda.—20 papers.

Papers from Britain:—

“The effect of light on the vitamin C of milk.” Kon and Watson.

“The effect of heat treatment on the nutritive value of milk.” Kon and Henry.

“Publicity for milk in England.” The National Milk Publicity Council.

Co-reporter for topic, Prof. H. D. Kay.

Section IV.—Dairy Machinery, Buildings, Technical Factory Questions, Dairy Implements, Transport.

Member of section committee, Mr. J. G. Stapleton.

Topic 1.—Planning and construction of dairies and factories with due regard to drainage and disposal of waste products.—12 papers.

Paper from Britain:—

“The treatment and disposal of waste waters from dairies and milk products factories.” Parker.

Topic 2a.—The handling and transportation of milk.—16 papers.

Paper from Britain:—

“High-temperature short-time pasteurisation as a commercial process.” Mattick and Hiscox.

Topic 2b.—Arrangements in dairy factories for the manufacture of containers for the sale of milk and milk products.—8 papers.

Topic 3.—Economy in power requirements in dairies.—14 papers.

Paper from Britain:—

“Power and its application in the dairy industry.”
Shepherd.

Topic 4.—Development of dairy machines and implements of modern alloys and materials.—6 papers.

Paper from Britain:—

“Milk and metals.” Seligman.

Procedure at Section Meetings.—The meetings of the Sections were held each day from 9.30 a.m. to 2 p.m. in two large halls of the Kroll-Festsäle. The larger of these halls has been used as the meeting place of the German Parliament since the interior of the Reichstag was burned some years ago. Two sections held their meetings concurrently. The large number of papers and reports submitted under the various sections made the reading of each paper an impossibility, and arrangements were made whereby summaries of groups of papers dealing with the same or related subjects were prepared previous to the opening of the Congress. This work was carried out by the general reporter for each section and his co-reporters. Small booklets in the three official languages—German, English and French—containing these summaries, and also short summaries of the great majority of the papers, were available to all members when the Congress opened. At each section meeting one or more of the reporters gave an address containing the essential features of the summary he had prepared, and thereafter the authors of the papers and any others could take part in the discussion. The arrangements for the translation of each speech into the other two official languages were much superior to those at any previous Congress. At the back of each seat in the two large halls used for Congress meetings there was affixed a small box showing on the outside a small numbered dial and pointer, and with ear phones attached. When a speech was being given in German, listeners not familiar with that language put on the ear phones, moved the pointer to the appropriate number on the dial, and at once heard a slightly abbreviated translation of the speech in English or in French made by translators in insulated rooms. The same procedure was adopted later when the latter languages were used by speakers. With rare exceptions this method of immediate translation gave great satisfaction; it brought about a great saving of time and facilitated discussion.

On some occasions the speeches might have been shortened with advantage, and the discussions did not probe very deeply into subjects of a controversial nature. There was, nevertheless, general agreement that the meetings and discussions were most valuable, and the opportunity for workers on similar subjects in different countries to meet each other and compare notes and views was most highly appreciated.

Following each meeting the section committee met to prepare the programme in detail for the next day and to draft any resolutions or recommendations which the section wished to submit to the final meeting of the Congress. A synopsis of these resolutions is given on pages 77 to 79.

EDUCATIONAL VISITS AND TOURS.

Much thought had been given to the planning of short and long tours to places of interest and a large number of the members took full advantage of the opportunities thus provided to learn more about the dairy industry and other features of modern Germany.

During the week of Congress meetings, half-day excursions were arranged to municipal farms and dairies, milk processing and distributing centres, butter and cheese warehouses, an educational institute, and to the places of historical interest at Potsdam.

At the end of the Congress week, full day excursions were arranged to different districts in the Berlin area to visit country dairies where milk was collected for treatment before transportation to Berlin, and where butter and cheese was made, and also to see other places of interest.

After the Congress was concluded a number of trips to other parts of Germany and covering periods of three to ten days were planned. These were much appreciated by those who had the time to spare or who could include in their journey home-wards additional visits to centres of education and research in dairying.

During the week of the Congress a special programme was prepared for the ladies accompanying the official Congress delegates. This programme included visits to a municipal dairy, a baby milk-kitchen, a school for young mothers, a film studio, a chocolate factory, a fashion show, a labour camp for young women, the historical palaces of Potsdam and an inspection of the Headquarters of the German Women's Organisations. The care with which this programme had been planned and the generous hospitality was very greatly appreciated.

SOCIAL EVENTS.

Two events of major importance signalised the opening and the closing of the Congress. On the evening of Sunday, August 22nd, the German Marketing Board for Milk entertained all members to dinner. The number of guests was approximately 3,500 and ample accommodation for all was found in the rooms of the Kroll-Festäle. On the evening of Thursday, August 26th, an official Congress banquet was held in the same building, followed by a ball. An even larger number was present on this occasion and the skill and tact shown in the organisation of an event of such magnitude, together with the hospitality, created a most friendly atmosphere and made a deep and lasting impression on all present.

The official delegates from all countries were also invited to a dinner given by the German Government, at which they were received by Mr. R. Walther Darre, Minister for Food and Agriculture, and to a reception with tea given by Dr. Lippert, Head Mayor and President of the City of Berlin.

On another occasion official delegates from Great Britain and the Dominions and Colonies were invited to a reception and tea at the British Embassy by the British Ambassador, Sir Neville Henderson.

INTERNATIONAL DAIRY EXHIBITION.

The meeting of the Congress in Berlin was also made the occasion for the staging of a large dairy exhibition organised by a special committee under the German Ministry for Food and Agriculture.

This exhibition was housed in a series of large halls recently built on a new site near the Radio Tower and some three miles from the Congress building.

Many of the countries represented at the Congress staged exhibits of their dairy products or displayed maps, charts, pictures and models showing the scope and nature of their dairy industry. The British exhibit took the form of an extensive and detailed photographic display showing the British breeds of dairy cattle, conditions of milk production, transport, processing, manufacture and distribution; also the organisation of the industry, publicity methods, the use of milk in schools and factories and the equipment for education and research.

Another hall was devoted to exhibits of dairy machinery and plant by the chief manufacturing firms of many countries. These stands attracted a large number of visitors, and the press notices, issued after the Congress, lay stress on the amount of business done.

Other sections of the exhibition were devoted to special aspects of the dairy industry, such as the historical development of dairying, the role of milk in the art and culture of nations, propaganda and instruction on milk and milk products, and publications dealing with the science and practice of dairying.

In a special building in the grounds there were housed groups of cows of seven German dairy breeds. These attracted much attention and though worthy of commendation, a similar exhibition of British breeds would have illustrated even greater progress in conformation, type of udder, milk yields and management at milking time.

The organisation of an exhibition of this scale and scope in connection with a World's Dairy Congress is a new feature, and added materially to the opportunities for learning more of the great part played by the dairy industry in the welfare and commerce of nations.

INTERNATIONAL QUALITY SHOW FOR DAIRY PRODUCTS.

For the first time in connection with a World's Dairy Congress, arrangements were made for a display of typical lots of butter and cheese from different countries and for the judging of these by international experts.

The object of this display was not competitive, but educational, in order that experts from different countries might have an opportunity of comparing methods of judging and grading, of studying the quality and of noting the differences between and the typical flavours of the produce of different countries.

The display of butter was the chief feature of this show. Nineteen different countries sent in 271 sample lots grouped in two classes, (a) fresh butter, and (b) storage butter. Classes were also provided for 11 different types of cheese, of which ten were for continental varieties.

Great Britain did not forward specimen lots of butter or cheese, but a number of the British members made full use of the opportunity to study the characteristics of the produce of other countries.

RESOLUTIONS AND SUGGESTIONS.

At the final meeting of the Congress a large number of resolutions and suggestions were received from the various sections. Lack of space forbids the reproduction of all these resolutions here, and many of them have no bearing on dairying conditions in this country, also on many topics the International

Dairy Federation was asked to undertake the preparation of reports for submission to the next World's Dairy Congress at Vienna in 1940. It is, however, desirable to give a selection from the resolutions to show the trend of thought at the Congress on a number of matters of universal interest.

From Section I. Improvements of Dairy Cattle.—There should be an international exchange of views (on the judging of dairy cattle) with regard to the combined method of giving points both to form and to performance. By international agreement herd book statistics might be given in a recognised standard form.

In judging the breeding value of dairy cattle, not only the annual milk yield, but also the life time performance should be considered, together with other factors such as health, &c.

Chronic cattle diseases (Brucellosis contagious abortion, tuberculosis, mastitis) cause, in addition to breeding difficulties, losses of meat and milk, reduction in milk yield and may also affect human health. The Congress, therefore, considers that the eradication of Brucellosis, tuberculosis and mastitis demands urgent attention. It considers the measures suggested by the general reporter are appropriate and recommends their adoption by the various governments. (See pages 84–88.)

Tropical Dairying.—The International Dairy Federation should make every effort to develop its tropical section, in order to awaken and stimulate interest in dairying; all tropical countries, especially those with an increasingly important dairy industry, should be approached to collaborate in the work of the Federation; the Federation should examine those special problems associated with the supply of hygienic milk to large towns in tropical and sub-tropical countries and a section at future Congresses should continue to be devoted to the problems of tropical dairying, with special reference to the control and eradication of disease.

From Section III. Milk Products.—Recommendations were agreed to regarding the definition, designation and fat content of processed cheese, and regarding the designation, water content, fat content, statement of contents of package and standard methods of analysis of dried whole or skimmed milk.

Hygienic Production of Milk.—Hygienic production of milk based on sanitary control in the cow house and on measures conducive to the lowest possible microbic content must aim at the production of a milk easy to pasteurise, i.e., a milk free from heat-resistant organisms and thus suitable for mild pasteurisation. The purpose of this pasteurisation is to secure the absolute destruction of all pathogenic germs and to improve the keeping

qualities of the milk without injuring its natural nutritive and industrial qualities.

The production of a milk free from heat-resistant organisms is made possible by the following fundamental measures:—

- (a) avoidance of spoilt, mouldy, overheated, butyric fodder.
- (b) keeping the udders healthy without an excessive germ content.
- (c) thorough sterilisation of the milk containers and utensils.
- (d) immediate cooling of the milk below 10°C. (50°F.) until pasteurisation.

The production of a milk capable of easy pasteurisation is necessary for the desired reduction in the number of grades of milk, accompanied by the suppression of all milks not attaining the necessary hygienic standard. The production of a milk easy to pasteurise is also necessary for a successful campaign to increase the consumption of milk and milk products.

Education.—The International Dairy Federation requests the National Committees to recommend the establishment of professional Chairs in dairying at dairying and agricultural colleges, particularly where the college is associated with an experimental dairy and research station. Dairying to-day is of such economic importance that, if subordinated to other branches of agriculture, its importance is not properly manifested.

Section IV. Equipment and Operation of Dairies.—Many dairies operate uneconomically owing to mistakes in buildings and equipment. It is essential that in the erection of buildings and in structural alterations, the planning and supervision of the work should be directed by an impartial adviser, who is an expert in these matters and who is conversant with the legislative requirements and the problems of dairy management and operation.

Pasteurisation plants are tested in different ways in different countries and it is thus impossible to estimate their relative efficiencies. It is recommended that a standard method of judging such plants and apparatus should be established.

The wide range of subjects discussed by the different sections and the large number of papers submitted made it impossible for the Association's delegates to prepare adequate reports on each section. Attention has, therefore, been concentrated on the most important topics in sections 1 and 2, and summaries of these follow, together with a short résumé of general impressions gained during the railway journeys and in the course of visits to different districts.

SECTION I. *Milk Production and Tropical Dairying.*
Summary of Topics 1, 2 and 3.

1. *Milk Records in Relation to Breeding and Feeding.*—The first subject to be dealt with in the numerous papers submitted in this section was that of milk tests (or milk records, to use the English expression) in relation to breeding and feeding.

There is little to be gained by recapitulating the methods of milk recording in practice in different countries, because the variation in dairy farming conditions and the degree to which state funds are available to assist development have led each country to adopt a system suited to its own needs. There is, however, general agreement that milk recording must include records of the yield and fat content of the milk of individual cows, preferably of all the cows in the herds, and that notes should be made of the circumstances which may influence the yield and quality, such as change of milker, weather, condition of the udder, ill-health, feeding, &c.

A large number of papers dealt with the frequency of weighing the milk in order that the milk yields calculated from these weighings may be trustworthy. The practice in different countries varies from one day each month to one day each week, as in England. It was suggested that weighing the milk at 14-day intervals was desirable, but, as is so well known in England, the greater amount of arithmetic arising from recording at short intervals is a universal handicap. On the reliability of records it was recognised that no method, however carefully devised, can entirely exclude irregularities and, when deception has been proved, the offender should be expelled from his society.

One aspect of milk recording, which has been the subject of much discussion in this country, received considerable attention, viz., the value of very high yields. It was noted that, when the reports of phenomenal yields by cows in America came to Europe, breeders in most countries were stimulated to give their own cows every opportunity to show their maximum powers. In Hungary, apparently, great success attended these efforts: the Hungarian spotted cow "Dama 171" is credited with the phenomenal yield of 43,260 lb. milk containing 1,474 lb. fat (3.4 per cent. fat) in 358 days. In Germany, also, it is claimed that yields have been obtained which compare favourably with those of cows in other countries.

There was, however, definite evidence from many countries that phenomenal yields for one lactation only were not of great value. Attention is being concentrated on those animals which have a long, healthy, productive life. The German authorities have decided to treat such animals as most suitable for selective

breeding and "to ignore those which flash like meteors with a performance of 22,000 lb., but for one year only."

The problem of the relation between high milk yield and susceptibility to disease also received attention and the consensus of opinion favoured the conclusion that constitutional diseases were not the inevitable consequence of high milk yields. It is believed that animals inherit *independently* the ability to produce large yields and the susceptibility to disease; constitutional weakness may be inherited by both high and low yielders; those which inherit high production without susceptibility to disease are the most valuable.

Two other influences have also exercised a powerful effect in counteracting the tendency to pay marked attention to very high yields. The first of these is the farming conditions which prevail in many areas and the second is the economic conditions now fairly general on the continent.

In many parts of south Germany, Austria, Switzerland and elsewhere, the farms are small, the soil poor and the climate by no means favourable to milk production, also the cow is often a truly dual-purpose animal, because she has to take the place of a horse in field work during her period of lactation. Under these conditions high milk yields cannot be obtained and the authorities responsible for directing policy in breeding and management have concentrated on developing the type of cows most suitable to the districts. Thus, for example, in Switzerland the total performance of a cow is sub-divided as follows:—

Total performance 6/6	{	General performance 3/6	{	Constitution, Health, Fecundity, &c.
		Special performance 3/6		Milk yield 1/6. Fattening quality 1/6. Working capacity 1/6.

Because of this interpretation of the relative values of a cow's general and special qualities, Swiss breeders have declined to lay special stress on breeding for milk, to the neglect of constitution, health and fecundity, which are essential to the development of milking, fattening and working capacity. It is also noteworthy that milk yielding capacity is determined for herd-book cows which receive normal home-produced food and are managed under normal conditions. The use of purchased foods and foreign concentrates is forbidden because these are not economic in the mountainous breeding districts.

The economic conditions in many countries have made a reduction in the use of imported concentrates essential. It is

stated that in Germany there can be no question of allowing unlimited use of concentrated foods and of allowing breeders to achieve records with the use of such foods. In Germany, therefore, and in most other continental countries, state policy and dairy farming conditions are compelling herd owners to rely more and more on the produce of their own farms for the feeding of their stock, and to select for breeding purposes those cows which achieve good records and maintain good health for a period of years under these conditions. These facts also account for the great interest taken in the large number of papers devoted to Topic 2—The feeding of dairy cattle on home produce.

2. *The Feeding of Dairy Cattle on Home Produce.*—The general reporter on this topic points out that a system of cow feeding, based mainly on concentrates, could only be practised as long as the prices of concentrates were low compared with those of milk and dairy products. From a national economic point of view, great imports of concentrates are only feasible when they can be financed by a sufficient supply of currency derived from exports of corresponding value. The changes in prices of concentrates and dairy products, which began several years ago, have entailed a marked reduction in the use of imported concentrates. In 1932 approximately 2·3 million tons of concentrates, practically all imported, were fed to dairy cattle in Germany, but by 1936 the amount had dropped to about one million tons. Similar changes are reported from many countries, and in all of these a fundamental change in the feeding of dairy cattle is in evidence. Home-grown fodder is replacing to an ever greater extent the foreign concentrates hitherto fed in large quantities.

The differences in soil and climate on the continent make it inadvisable to do more than refer in general terms to the measures recommended; indeed, the great majority are already familiar to English farmers and many have been put into practice during recent years and in other periods of agricultural depression.

The laying down of land, previously under corn crops, to grass for pasture and hay is strongly recommended in Austria and Hungary and the improvement of existing grass land and the growing of larger areas of fodder plants for stock feeding is urged in Germany, Hungary, Denmark, and Italy. Marrow stem kale is the subject of much experimental work in Germany. It is pointed out that the leaf contains a much larger percentage of crude protein than the stem, and therefore special efforts should be made to grow varieties with marked leaf growth and to utilise the leaves to the fullest advantage. It is even suggested that the leaves should be used in the late autumn and the stems

stored in stacks for winter feeding. Marrow stem kale has been found to be superior to turnips as a food for dairy cows, and because of its higher protein content, the replacement of 44 lb. turnips by 44 lb. kale will effect a saving of about 3 lb. of concentrates.

The greater use of leguminous fodder crops, such as the clovers and lupins, is suggested in Germany and Italy, and great stress is laid on the value of silage made from these crops as a means of maintaining the milk yield when the allowance of concentrates has been reduced. The A.I.V. method of making silage (by the use of mineral acids) has been tested in Austria, Germany, Italy and Belgium, in addition to Finland, where this process originated, and many favourable reports were given. From Belgium comes the claim that a ration of leguminous silage, cold-resisting varieties of cabbage, roots and clover hay, without any concentrates, will maintain during winter a milk yield of up to 26 lb. to 28 lb. daily. The favour with which A.I.V. silage is regarded in continental countries raises the question whether this process is not worthy of a more extended trial in England.

It is generally recognised that the use of home-grown foods for milk production, thereby replacing purchased concentrates, requires that special attention should be given to foods rich (or at least comparatively rich) in protein. In this connection recent large scale investigations in England have shown that, where hay forms a considerable part of the maintenance ration, the protein supply for milk production can be reduced by some 25 to 30 per cent. without any adverse effect on the yield or fat content of the milk or on the condition of the cows.

The circumstances of international trade in Britain are, fortunately, not such as compel a serious restriction of imports of concentrated foods for cattle; indeed, the importation of the seeds and nuts, the use of which in commerce gives rise to concentrated cakes and meals as by-products, from other parts of the Empire is definitely encouraged. The economic conditions on many milk producing farms, however, do not encourage expenditure on purchased foods, and the question whether, and if so, to what extent, milk production could be maintained and cheapened by the greater and wiser use of home-grown foods is one which should receive definite attention in this country. Our soil and our climate is more favourable to all-the-year-round milk production than that of the great majority of continental countries; we already have a very large proportion of land under grass and we can grow successfully a wide variety of leguminous crops (including beans and peas which apparently are little used for stock foods in Europe) to supply farm-grown protein. By improving the quality of our pastures and meadows, by

harvesting for quality as well as quantity and by practical farm tests of the degree to which home-grown foods can replace bought foods, the economic condition of many dairy farms can be improved.

3. *Stable (Cowshed) Hygiene.*—The papers submitted on this topic naturally dealt with the housing conditions prevailing and the improvements desirable in the various countries. They contained only occasionally expressions of opinion and recommendations which are of interest to English readers. In the construction of stalls it is surprising to find concrete condemned and preference given to pugged (? puddled) clay and clay bricks set on edge. The dimensions of stalls are apparently still a subject on which there are wide differences of opinion, and at one meeting the relative merits of the "long" and the "short" stall were keenly debated. With regard to windows, the statement "we are taught by experience that where light is not allowed to pass the veterinary surgeon will enter" will be generally approved. The use of paint of a light-blue colour has lessened the prevalence of flies; it is suggested as sufficient that in summer the window panes be washed with lime to which some washing-blue has been added.

The climatic conditions on the continent during winter are usually such that the cows are continually indoors and the cowsheds on the smaller farms are in close proximity to the dwelling house, usually with internal communication. The summer conditions show wide variations; in the dairy countries of northern Europe the cows are in the fields day and night; in mountainous districts there are areas of summer pasturage at high altitudes and in Italy a large proportion of the cows are indoors day and night, except for two or three months in late summer and early autumn. The conditions generally as regards climate, situation and construction of cowsheds are so different from those of England that further discussion is unnecessary.

SECTION I. *Topics 4a and 4b.—Distribution, Prevention and Eradication of Abortion (Brucellosis).*

The reporters at the Congress were agreed as to the world-wide distribution of brucellosis, though it is impossible to assess its actual extent, as in most countries it is not notifiable under animal disease regulations. In those countries where a systematic investigation has been carried out, as in Prussia, U.S.A., and in Sicily, the percentage of affected animals is in remarkable agreement, namely about 10 per cent. of the animals tested. Bauer (Germany) points out that it occurs in larger percentage in big herds and in those districts where there is considerable cattle trade. It is generally agreed that the

economic losses to farmers cannot be estimated solely by the loss of calves by abortion. Other serious losses are caused by retention of the placenta, uterine defects causing sterility, and reduction of the milk yield. In addition, the danger to human beings must be considered. In this latter connection opinions appear to differ as to its seriousness. Manninger (Hungary) and Mirri (Italy) believe that milk infected with *B. abortus* is not a serious danger and is only likely to infect human beings if continuously consumed in large quantities or in the case of persons exceptionally predisposed to it. While this may be true, human infection may be very serious in some of those cases where it occurs, and such avoidable risks should not knowingly be taken. Other reporters, notably Bauer and Lerche (Germany), emphasise the danger and recommend that raw milk should be given to children from abortus-free herds only, and that it would be better to demand pasteurisation of all milk from infected herds until the whole herd is proved free from infection. In Germany, milk of cows suffering from abortus Bang or excreting brucella in their milk can only be marketed after heating. As pointed out by Mirri, *B. melitensis* as met with in infected goats' milk in Southern Europe is far more dangerous to human beings.

Diagnosis.—The majority of the reporters are of the opinion that the agglutination test is the best method of diagnosis. There is, however, a margin of error which can be reduced if the agglutination and complement fixation tests are carried out in parallel (Manninger; Roots (Esthonia)). Veenbas (Holland) urges an international standardisation of the agglutination liquid in order to obtain uniformity of interpretation. Mirri, on the other hand, claims very great success in goats by means of an allergic test with a product he calls "Brucelline," applied by injection into a lower eyelid, but he considers that a longer trial is necessary in respect of cattle. Veenbas regards the allergic tests as being still in the experimental stage. It may be recalled that some years ago Stockman in England tried an allergic test with a product called "Abortin" by subcutaneous injection which caused a thermal reaction in affected cattle. The margin of error, however, was rather wide, and the method was discarded in favour of the agglutination test. In the case of a newly aborted cow a rapid diagnosis can usually be arrived at by microscopic examination of uterine discharge or of a smear from a morbid cotyledon, or from the foetal stomach. Veenbas and Wooldridge both refer to this procedure, which is definitely of great assistance.

Lerche discusses the detection of *Brucella* in milk and states that guinea-pig inoculation is more reliable than cultures, but it is rather expensive and slow—requiring eight weeks. He

would prefer to test the cows and regard as a danger the milk of every cow that reacts to the agglutination test.

Prevention and Control.—All the reporters appear to agree that the best procedure is that based on hygienic principles, and that *there is no known therapeutic substance of any value as a curative agent*. They also agree that dead vaccines confer no immunity. Doyle (England) suggests that they may give owners a false sense of security and induce them to neglect the more important hygienic measures of control.

The use of living vaccines is prohibited in Germany and the use of vaccines, living or dead, is prohibited in Hungary.

The use of live vaccines is disapproved of by all the reporters except Veenbas. Doyle, Mirri and Roots all admit that their use in heavily infected herds may help to reduce the number of actual abortions, but tend to establish infection in the herd, reduce the milk yield, and infect the milk. In other words, the use of live vaccines affords little or no hope of ultimate eradication of the disease. Veenbas, on the other hand, strongly recommends the use of live vaccines for immunising calves between six and eight months old, as formerly recommended by Stockman. In his opinion there is no need to forbid such inoculations if carried out with the necessary care. This method has been extensively used in Great Britain, but is now rapidly losing its popularity in favour of hygienic measures alone.

Eradication can only be achieved by systematic tests of all cattle one year old and upwards, and the segregation of all reactors until they can be suitably disposed of. The test should be repeated at least twice a year, and no herd can be regarded as free until there have been at least two successive negative tests. Doyle suggests that all reactors should be branded indelibly and only permitted to be moved off the premises by licence. Manninger strongly urges the use of calving boxes, which must be kept thoroughly disinfected, for *all* calving cows, and no cow should be returned to the shed until all discharges have ceased. Every premature birth or retention of fetal membranes should be suspect, and the cow should be isolated until proved free of infection.

Free herds must be kept free by home production of new stock. No introductions from other herds whatever should be permitted unless it is definitely known that these come from abortus-free herds.

The importance of the bull is emphasised by most reporters. Veenbas states that he has repeatedly examined bulls with orchitis and found them to have a very high agglutination titre. The presence of orchitis, however, must not be regarded as *sine qua non*. Mirri has frequently observed infection by the male goat.

The eradication of *brucella abortus* is an expensive procedure and only few farmers can afford it. State assistance is, therefore, necessary if it is to be accomplished (Doyle and others).

PREVENTION AND ERADICATION OF TUBERCULOUS MASTITIS AND STREPTOCOCCUS MASTITIS.

Professor Mussemeier (Berlin) emphasised the grave importance of these two diseases, and particularly because they do not always cause changes in the udder or in the milk by which they can be recognised or even suspected. In the more advanced stages, however, the condition can be more readily recognised. He stressed the grave danger of tuberculous milk, especially to young children, and he considers that the detrimental effect is not wholly excluded by destroying the tubercle bacilli by heating, and he suggests that all such milk be destroyed. Mussemeier emphasises that other forms of tuberculosis besides udder infection can render milk dangerous, such as intestinal genital or pulmonary tuberculosis, by contamination during milking. Milk from all such infected animals should be compulsorily pasteurised before being sold to the public.

Mussemeier considers there is no justification in distinguishing between so-called open tuberculosis and latent forms, as the latter may suddenly become active and disseminate dangerous infection before being recognised.

The economic losses, apart from the danger to human beings, are enormous and involve loss of meat production, diminished breeding value and offspring, and the greatly reduced milk yield. It is estimated to cause a total annual loss to Germany of about £30,000,000 (360,000,000 R.M.).

All measures by which at best certain sources of infection are obstructed will give no practical results in the long run; measures merely aiming at the protection against the spread of tuberculosis caused by milk will not succeed in eradicating tuberculosis in cattle. A systematic attack on all sources of infection is, therefore, imperative and is demanded by reason of public health as well as for economic reasons.

With regard to streptococcus mastitis, the economic losses are very considerable. In advanced cases there are obvious changes in the milk which also contains purulent matter, which is repulsive even if not positively dangerous. In the milder cases, there may be no change in the appearance of the milk or of the udder, and the infection is only discovered by laboratory examination. Mattick, Davies and Dearden (England), investigated the effect of milk from such "sub-clinical" cases of mastitis on cheese production and they established quite clearly that a very inferior cheese resulted and they enter a plea for the eradication of mastitis in all its forms.

The measures of prevention are directed to checking infection of healthy from infected animals: where possible, infected and also suspected animals should be kept in separate sheds and milked separately. If this is not practicable the healthy cows must be stalled at one end of the shed and must be milked first and the first jets of milk should be drawn into a separate container. Affected udders may be treated by the injection of certain concentrated acridine solutions in small quantities which have given good results in many cases. According to Professor Steck (Switzerland), only the lowest parts of the mammary gland need to be treated. The results obtained justify further trials.

SECTION II. *Milk Processing, Treatment and Improvement in Quality. Summary of Topics 1 to 5.*

This Section (II) of the XIth World's Dairy Congress was the largest and the papers, which have been published, occupy one complete volume of 569 pages of closely printed matter. Even the official summaries occupied 311 pages of the small booklets; consequently, to give in a short account anything other than a discursive review is quite impossible.

Papers were invited, submitted and subsequently discussed at the Congress on the subjects indicated below.

DEFECTIVE MILKS FROM A PRACTICAL AND SCIENTIFIC STANDPOINT.

Defective milks were divided into two main groups; (a) milks which show defects due to secretional disturbances, and (b) milks which become defective owing to external contamination following milking. The most frequent milk of type (a) is one containing a high fat content of lipase which causes decomposition of the fat with the production of first a sweetish, then oily or distinct soapy flavour. Although the milk from a single cow may exhibit this peculiarity in a pronounced manner, it is rare to find that the mixed milk develops the defect to beyond the slightly oily flavour. The activity of the enzyme is reduced at low temperatures and tends to be suppressed by lactic acid. In the summer or in uncooled milk, the normal souring of the milk by bacteria gives lactic acid which inhibits the enzyme from producing the distinctly oily flavour. On the other hand, in the winter or with well-cooled milk, the enzyme may produce the defective flavour before the milk is sufficiently sour to inhibit its activity. Pasteurisation prevents the development of the unsavoury flavour.

Another defect of group (a) is that which gives an oily and eventually fishy or turnip-like flavour to the milk and is due to certain feeding stuffs. The most common food

causing this defect contains molasses, beet products, or turnip-tops. Small quantities of these foods may be given immediately before or during milking without trouble being experienced, as the active principle, betaine, is decomposed in the blood stream before the next milking, but if fed three to five hours before the milking the taint will be observed.

Other feeding stuffs may result in a milk which cannot be distinguished from normal milk until hard cheesemaking is undertaken. Then the production of the lactic acid is impeded. Boiling the milk and, of course, pasteurisation do not remove the difficulty. No definite explanation of this latter defect was possible.

Other defects of group (a) result from the close relationship between the constitution of the milk and of the blood stream. Any defect in the blood due to pathogenic conditions, or injections of various substances into the blood stream, result in a variation in the milk from its normal constitution and the consequent production of a defective flavour.

The second group (b) includes defects produced by contamination with foreign substances after milking. The possibilities in this group are almost unlimited, but the study was mainly restricted to metallic and bacterial contamination. Copper, even in traces, is capable of producing a tallowy flavour and defective colour; iron has a similar, but less pronounced effect. Lead may also be dissolved from the solder seams of metallic utensils, particularly by milk which has absorbed oxygen during processing. The quantity of lead has never been known to approach the poisonous limit, and apparently this metal causes no obvious defects in the milk.

The straining or centrifuging of milk decreased the keeping quality of milk due to the consequent breaking up of clumps of bacteria and distribution of active bacteria throughout the milk.

THE DEVELOPMENT OF THE AROMA OF BUTTER.

Diacetyl is the chief constituent of butter which produces the aroma. It results from the bacterial decomposition of the citric acid which is a normal ingredient of cream. There is some doubt as to the exact course of the change of the citric acid into diacetyl, but it has been established that an increased yield of diacetyl occurs with higher acidities, with free access of air, and at moderate temperatures between 54° and 70° F. Only a small quantity of the diacetyl (25 per cent. of that formed) passes into the butter from cream ripened for churning.

Sweet cream butter contains practically no diacetyl.

The effects of storage differ. Storage for about four days at ordinary temperatures increases the amount of diacetyl, but after longer periods, the amount slowly decreases. Storage of ordinary butter in refrigerators produces little change in the diacetyl.

Storage of sweet cream butter, even for long periods (six months), produces no diacetyl.

In view of the fact that there is no generally accepted method for the estimation of the aroma-producing substances, it was resolved that a committee should be formed to establish an international standard method of estimation.

THE KEEPING QUALITIES OF BUTTER.

The keeping quality of butter depends upon the influence of bacteria and enzymes which in turn are dependent for their development upon factors concerned with the composition of the butter and its physical condition. "Fishiness" in butter is attributed to the formation of trimethylamine, which is catalysed by the presence of traces of copper. Butter produced from sweet cream is not so liable to become fishy or oily in flavour as butter made from sour cream, although it might be considered that butter from sweet cream is likely to be more suitable for the development of bacterial and other action. The pasteurisation of the cream is thought to be of paramount importance in securing good keeping qualities.

Papers were also contributed dealing with the influence of the packing and of packing materials on the keeping qualities of butter, and also on the influence of the feeding of the cows on the properties of the resulting butter. It is shown that defects in butter wrapped in parchment paper are not due so much to the occasional growth of moulds, but to the access of light. Other possible wrappings are discussed including metallic foils, which, however, are expensive, and parchment packings coloured to exclude ultra-violet rays. The latter method is preferred. Experiments were described showing that vegetable colour in butter was more liable to accumulate oxygen, and thus cause deterioration, than butter coloured with dyes.

Feeding seems mainly to influence the colour in the butter, but cases were given in which certain foodstuffs gave unpalatable butter. The subject needs further investigation.

THE PASTEURISATION OF MILK FOR CHEESEMAKING.

The number of cheese factories adopting pasteurisation is steadily increasing for two reasons (a) the *Coli aerogenes* group is destroyed and consequently milk otherwise giving difficulties in manufacture is rendered safe and (b) a more even product

is obtained than is possible with raw milk, especially in the warmer months of the year. Pasteurisation is adopted essentially for economic reasons, and no relaxation is permitted in the hygienic production of the milk.

The main essential is that the cheese produced from the pasteurised milk must equal in every respect the product obtained from raw milk. On this matter there was a wide divergence of opinion. In general, it may be stated that pasteurisation of milk for hard-pressed, long-keeping types of cheese has not proved generally acceptable, although instances were given of its adoption, and emphasis was then laid upon suitable starters being employed. It seems that soft cheeses may be produced satisfactorily from pasteurised milk. Further work on this subject seems essential.

THE UTILISATION OF SURPLUS MILK FOR THE MANUFACTURE OF SUCH PRODUCTS AS MILK POWDER, CONDENSED MILK.

The problem of the utilisation of the surplus of market milk is extraordinarily difficult to solve. The supply to the condensing or drying plant is uncertain both in quantity and quality; modern machinery and skilled operatives need regular and not spasmodic employment; the demand for tinned condensed or dried product is usually regular and thus difficulties of storage in times of excessive surplus milk are encountered. These factors place condensing or drying plant converting surplus milk into tinned products at an almost prohibitive disadvantage in competition with the basic production of condensed or dried milks from normal condenseries.

On the other hand, the production of bulk condensed milk to be used, not as a direct human food, but in other industries such as baking, biscuit manufacture, chocolate and confectionery factories, soup factories, in which the demands are less exacting as to quality, offers a more feasible solution. Even in this case, the requirements of the industries are fairly well known some time ahead and contracts with normal condensing or drying factories are arranged. In addition, the industries generally prefer the normally produced product as its quality is claimed to be better than that produced spasmodically from surplus milk.

So far as the production of milk powder and condensed products from surplus milk is concerned, the papers suggest that the difficulties of disposal are likely to be great.

THE UTILISATION OF SKIMMED MILK, BUTTER MILK, AND WHEY.

Every country desires to utilise its dairy residues, but the question of the cost of manufacturing, from these residues, products, which may be sold at a profit, seems to present difficulties. Skimmed milk may be returned for the feeding of cattle,

but it is doubtful whether the full nutritive value is thus obtained. In Germany the skimmed milk, which is undoubtedly a food of a high order, is now sold cheaply to the population in the form of curds, sour milk cheese, skimmed milk cheese and cottage cheese. Advertisements to encourage the use of skimmed milk, of which Germany has increasing quantities, are displayed. Skimmed milk may be used in the manufacture of yoghurt, casein, various patent foods, dried skimmed milk, various plastics such as galalith, &c.

With regard to butter milk and whey, attempts are being made to develop markets for the dried products. Special whey foods are appearing and whey is being used to an increasingly extent in bread-making and in balanced cattle foods.

THE IMPROVEMENT OF THE QUALITY OF MILK AND MILK PRODUCTS BY STATE AND PRIVATE CONTROL.

The improvements of the quality of milk and milk products through state or private control may be divided into three sections. First, there are the laws and regulations, which exist in almost every country, for ensuring the production of a good standard raw material. In addition, various local contests seem indispensable in encouraging the producers to maintain as high a standard as possible. Secondly, certain countries have special regulations and orders for the control of manufacturing processes, and in this instance, private or public research work plays an important part in investigations with a view to the improvement of both the raw milk required for specific purposes, and its subsequent efficient use in a factory. Finally, there are regulations ensuring that the milk or milk product reaching the consumer shall be of a satisfactory quality in every respect.

It would seem essential for the universal appreciation of the improvement of milk and milk products to adopt similar methods of judging and of awarding points throughout all countries. In view of the different methods at present used, it is difficult to assess the standards in the various countries.

It was, therefore, resolved to ask the International Dairy Federation to make a preliminary study of this question, and if it should prove possible, to continue the work to secure international agreement on the judging of dairy products.

The payment for milk and milk products according to their quality, although of great importance, can only be regarded as

in its initial stages of development, but it appears to be a vital factor in raising the quality of the supply. This, however, involves two problems from an international point of view.

First, it seems essential that the International Dairy Federation should secure international agreement on a standard bacteriological method of testing, and secondly, that similar agreement should be obtained on a rapid standard method of chemically testing milk and milk products.

This latter point must not be confused with the work now being done by various committees of the International Dairy Federation on standard methods of analysis. Those methods are precise and accurate methods of analysis which would only be employed internationally in case of scientific research or dispute or other circumstance demanding careful work. The problem raised at the World's XIth Dairy Congress was thought to involve collecting a large amount of data from the various countries. As obviously that data could not be based on accurate standard analytical methods, which would take too long, it was considered essential to standardise a rapid method of chemical testing.

IMPROVEMENT OF THE QUALITY OF MILK AND MILK PRODUCTS BY RESEARCH.

The papers submitted on this subject covered an extraordinarily wide range varying from research into the dispersibility of dried skimmed milk to applications of statistical research to milk adulteration problems. Papers were also presented on methods of determining the efficiency of the pasteurisation of milk, the fat content of milk, the bacteriological method of testing dried milks, the proteins of milk, the freezing point of milk and numerous other topics so diversified as to render it impossible to give a summary. Each paper was a distinct and separate contribution on a specific problem, but the general conclusion seems to have been that research work had resulted in commercial improvements which only too frequently had not been credited to the valuable information rendered available by research.

GENERAL IMPRESSIONS.

The main party from England left London (Liverpool Street) on the morning of August 20th and travelled via Harwich to the Hook of Holland. The following day was occupied with

the train journey from the Hook to Berlin, which was made without change of coach. Passing through Holland large numbers of Friesian cattle were seen on the pastures, black and white was the predominating colour with a sprinkling of lemon and white. The absence of ricks of hay and straw (as seen in Great Britain) was noticeable and it was concluded that the stores of fodder were in permanent buildings. Quantities of potatoes and mangolds were grown. Near the German frontier a tract of land, growing heather and scrub wood, that did not appear to have been brought under cultivation, was traversed. From the frontier to Berlin the land was chiefly devoted to arable cultivation, much being worked on a strip system comprising potatoes, mangolds and a grain crop on areas of about half an acre of each. Berlin was reached about 5 o'clock in the afternoon.

The tours arranged during and after the Congress provided numerous opportunities for inspecting the dairies equipped for the handling of milk for the liquid milk market and for butter and cheese making. On these occasions and at other times it was also possible to gain some information on the organisation of the dairy industry which may be of interest.

From all accounts it would appear that previous to 1932 the German dairy industry was in a state of chaos. Low prices for dairy products, low prices for milk due to transference of milk from factories to cities and to under-cutting, milk price disputes and lack of organisation had led to most depressing conditions. In 1933 the restoration of order out of chaos was taken in hand by the Ministry for Food and Agriculture. It is not possible to give a full account of the procedure adopted, but a series of legislative measures were introduced dealing with the delivery of milk from farms to cities and to country depots, the simplification of distribution in the cities, the allocation of milk for the manufacture of butter, cheese and other dairy products and the control of prices at all stages.

The regulation of supplies to cities was carried out by fixing collecting areas with appropriate centres at which the milk could be treated for transport to the cities, or made into produce, as circumstances required. Around some cities zones were formed; the milk from that nearest to the city was used entirely for liquid consumption; the farms in the second zone supplied a definite quota for city use, which quota was increased in times of shortage and decreased in times of surplus, while those in the

third zone sent all their milk to factories, but could be called on to supply the city in times of severe shortage.

The effect of this arrangement was to lessen transport, ensure adequate supplies to cities and assist in economic operation of the factories. The following statement for the city of Frankfort-on-Main (population 556,000) shows the changes in the quantity of milk obtained from the different zone areas in two years previous to the reorganisation and one year afterwards:—

Distances from city.	1910.	1929.	1935.
	Per cent. of Total.	Per cent. of Total.	Per cent. of Total.
From under 12½ miles	13.9	5.3	51.2
„ 12½ to 25 miles	57.1	18.9	42.8
„ 25 to 31 miles	9.4	18.2	5.8
„ 31 to 93 miles	14.5	33.4	0.2
„ over 93 miles	5.1	24.2	—
	100.0	100.0	100.0

At the same time a compensation fund was created by levies on the milk sold for liquid consumption to increase the price paid for milk used for manufacture and to provide such compensation payments as might be decided on where it was necessary to close down redundant or uneconomic depots. The amount of the levy is approximately 1½d. per gallon, but varies somewhat in the different milk producing areas. One report on this subject states that “producers close to the markets who had previously marketed their milk themselves” were slow to understand why they should pay this levy and that “the distant producers fully appreciate the benefits of this system.”

The efficient organisation of city distribution was apparently specially necessary. By an Act of 1930 only those who had been granted a licence by the responsible authorities were allowed to trade in milk, but the administration of this Act was defective and in the struggle to obtain a share of the market an inconceivable confusion of distribution had resulted.

Reorganisation took various forms according to local conditions. In the larger cities direct marketing by the producer was generally prohibited, but in some towns exceptions were made in favour of the holders of small farms, who were allotted

a definite area for distribution. In small communities, especially where direct trade between producer and consumer was usual, changes were introduced only in exceptional instances. In some cities large companies were not allowed to sell to retailers and also compete with the latter through branch shops of their own or by street delivery; in such instances the branch shops were changed into independent retail shops and efficient employees were given an opening in business. The actual distribution was reduced to order, sometimes by giving a retail dealer a district within which he could sell without fear of competition, and sometimes by giving several milk dealers a common area. As supplies of milk could be stopped to a dealer who gave bad service, efficiency was maintained. Customers still had free choice in buying as only those who wished milk delivered to their homes were dependent on the district retailer. It is claimed that the result has been to eliminate unnecessary costs in distribution, to reduce actual costs, to remove abuses "which had become unbearable to a reputable retail trade," to reduce margins and to improve the quality of the consumers' milk.

The reorganisation of the manufacture of butter and cheese also involved drastic changes. The collecting area for each factory was decided on, farm butter-making was almost prohibited and many new factories were erected—in 1934, 489; in 1935, 493; and in 1936, 247—to deal with the milk thus made available for manufacture and for better national utilisation. As the average German dairy farm maintains only five cows, special measures were introduced to improve the cleanliness of the milk and to encourage greater production. Additional measures were taken for the supervision of the technical efficiency of each factory. The work done in each factory is determined by national needs. "The dairy (factory) is not to serve its own ends; as a link in economic operations it serves the producers as well as the other economic sections." The prices of butter, cheese and other products are controlled by the State through its various departments, and the retail prices of milk are fixed according to local conditions. Generally these range from 22 to 26 pfennig per litre (1s. 8d. to 2s. per gallon), while the prices the producer receives for milk supplied to cities appear to range from 1s. 3½d. to 1s. 5d. per gallon.

The legal definition of milk in Germany is as follows:—"Milk is the product gained by regular, complete milking of the udder of one or more cows, at one or more times of milking, thoroughly mixed to which nothing has been added and from which nothing has been withdrawn." The minimum legal fat content varies locally according to the breed of cow prevalent in the area. Three grades of milk are recognised, namely, "Certified Milk" which is generally similar to "Tuberculin Tested Milk"

in England; "First-class Milk" which approximates to "Accredited Milk" and ordinary whole milk. The supply of the latter to most of the cities is pasteurised and apparently three methods of pasteurisation are recognised (a) high temperature heating to at least 185°F.; (b) flash-heating to 160°-165°F. and (c) long-time heating at 143.6°-145.4°F. It is stated that the aim of German milk hygiene is to obtain sufficient quantities of faultless raw milk, but until this can be achieved pasteurisation of city supplies must be regarded as essential.

The foregoing broad survey of the reorganisation of the German dairy industry indicates that a gigantic task has been undertaken in a systematic and comprehensive manner, and there can be no doubt that a large measure of success has been achieved.

After the close of the Congress one of the tours included a journey through north Germany to Lubeck, Kiel and Hamburg and it was interesting to note the different methods of farming as the train travelled northwards. On the outskirts of Berlin an area devoted to market gardening was followed by large scale arable farming where the corn had been thrashed and the straw baled and stacked. Further to the north the country became undulating, nicely wooded, with hedges and a fair proportion of pasture, not unlike parts of England. Dairy herds became noticeable, chiefly black and whites, two or three herds of German Shorthorns and one herd of Red Angler cattle. It appeared to be the general practice to milk the cows on the pastures, in small temporary enclosures made with a few posts and one wire.

Many systems of hay and corn harvesting were practised. Hay and clover were second cuts and much was put up in small cocks. In some districts curing was done on tripods and frames, and in one instance the Scottish method of large cocks, each equal to a small wagon load, was practised. Corn was dried on tripods and frames in some parts, but the bulk of the corn was dealt with in a similar manner to that adopted in England.

The corn and root crops were very clean and promised excellent yields, as far as one could judge by merely passing through the countryside. Usually the ploughman worked around the ground to be ploughed. The ploughs used had short boards and also short handles.

The horses seen at work were anything from light-weight hunter type to heavy weights or chargers. The heavy draught horses of England were entirely absent. Very few sheep were seen.

At Lubeck the Hansa Dairy was inspected, where milk was pasteurised for liquid consumption. A speciality was a ten per cent. cream sold in metal tubes. The separated milk was bottled and sold for human consumption also.

After Lubeck the Dairy Institute for Education and Research, Malente (Holstein) (1935) was visited. The chief object was the education of future dairy experts and dairy managers who take courses of three months' duration after passing qualifying examinations. Forty students are admitted at a time.

We inspected the Dairy School which had an annual intake of 3,000,000 kilos of milk. Twelve per cent. was sold as liquid milk and the major portion of the remainder was used for butter-making; a proportion also was used for conversion into cheese, and a small quantity was supplied to a condensed milk factory. Bacteriological and chemical laboratories were adjoining. Lunch was partaken of at Malente, and the party afterwards travelled by boat and charabane to Laboe to see the Naval Memorial, and thence by steamboat along the Baltic to Kiel.

The next day an early start was made by charabane to visit the well-known Prussian Dairy Experiment and Research Institute at Kiel, founded on 1st April, 1922.

The work of the Institute was divided into six departments or institutions at the outset; two departments have since been added. These departments deal with the following subjects:—

1. Institution for the cultivation of fodder plants.
2. Institution for the production of milk.
3. Chemical Institution.
4. Bacteriological Institution.
5. Physical Institution.
6. Institution for milk-hygienies.
7. Institution for engineering.
8. Institution for milk utilisation connected with a dairy farm for experiments and teaching.

The buildings were very roomy and built around a large yard. Over 4,000 gallons of milk were received daily and treated at the well-fitted dairy before distribution. Cheese was also made.

After lunch at Kiel the party were taken by road to Hamburg, a run of about three hours. From Hamburg those

members of the party returning to England took train to the Hook, crossed to Harwich and arrived in London about 8.30 a.m. on September 1st after a strenuous, but interesting journey.

The delegates are agreed that the Congress was organised with an energy, skill and efficiency which has never been equalled. They wish to record their sincere thanks to the German authorities for their generous hospitality and their appreciation of the kind attention received from the Secretary of the Congress, Mr. W. Clauss.

In conclusion, grateful recognition must also be made of the valuable assistance given to all delegates by the members of the Association's staff, Mr. F. J. Bull and Mr. R. O. Hubl.

RECORDS OF TYPE, SIZE AND PRODUCTION OF REPRESENTATIVE ANIMALS AT THE LONDON DAIRY SHOW, 1937.

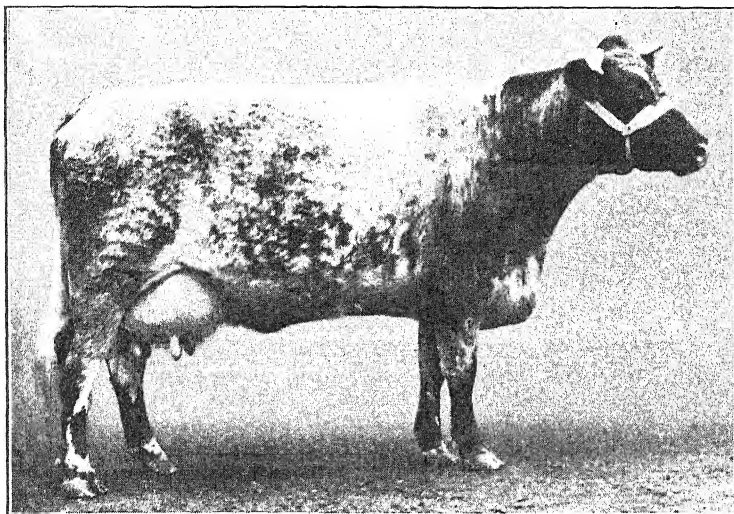
By

S. BARTLETT, M.C., D.Sc., and W. F. JESSOP.

At the London Dairy Show, 1928, a set of records was collected, comprising photographs, measurements and records of production of the first prize winners in each of the mature cow classes. These records, together with the principal objects and methods of taking the photographs, measurements, &c., were published in this Journal, Vol. XLI, pp. 123 to 148. Subsequently the same procedure has been adopted at each London Dairy Show and the records published yearly.

The following pages show photographs, measurements and all available records of production of 17 animals of nine different breeds.

In addition to the records published here the Association preserves the information in a rather more complete and permanent form in albums prepared each year. These albums contain two original photographs (right and left side), together with records of identification, breeding, production and size.



"FOTHERING FOGGATHORPE 2ND." Catalogue number 1.

Exhibited in Class 1 (for Pedigree Dairy Shorthorn Cow born on or previous to August 1st, 1932).

B.D.F.A. official photograph, taken on October 20th, 1937.

Born April 21st, 1932. Age when photographed, 5 years 6 months.

Prizes won at the London Dairy Show, 1937:—First Inspection, Extra Inspection, First Milking Trial, Third Butter Test, Shorthorn Society's £25 for Inspection, Milking Trial and Butter Test, Melvin Challenge Cup, Calvert Challenge Cup, Shorthorn Butter Challenge Cup, Reserve for Morrison Challenge Trophy and Desborough Cup.

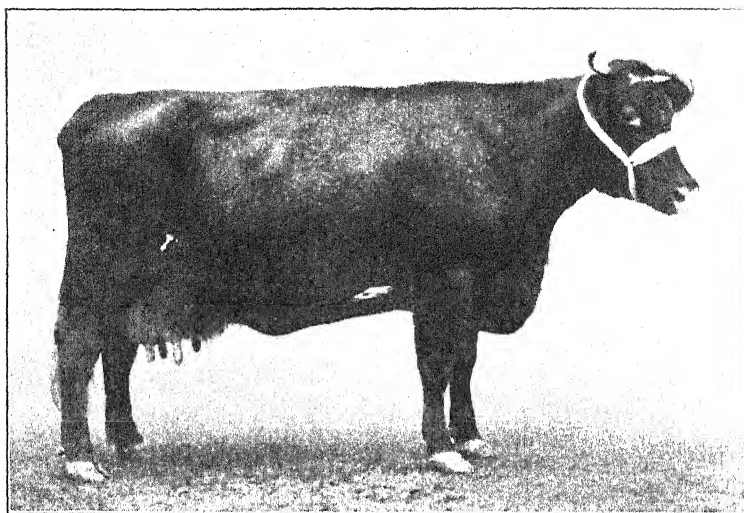
Owner and Breeder:—C. J. Allday, Esq., Fotheringhay Manor, Peterborough.

Details of thirteen body measurements given on page 118.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	19 Oct., 1934 ...	4	260	82	lbs. 6,908	6	4.32	298
2	30 Sept., 1935 ...	4	282	70	9,563½	6	4.12	394
3	20 Sept., 1936 ...	4	291	73	10,260½	7	4.03	413
*4	23 Sept., 1937 ...	4	—	—	—	—	—	—

* Record incomplete for 4th lactation.



“MARY.” Catalogue number 64.

Exhibited in Class 4 (for Non-Pedigree Dairy Shorthorn Cow).

B.D.F.A. official photograph, taken on October 20th, 1937.

Born December, 1931. Age when photographed, 5 years 10 months.

*Prizes won at the London Dairy Show, 1937:—*Second Inspection, Extra Inspection, First Milking Trial, Shorthorn Societys £10 for Inspection and Milking Trial.

*Owners:—*King's College Farms, Worlabby Hall, Brigg, Lines.

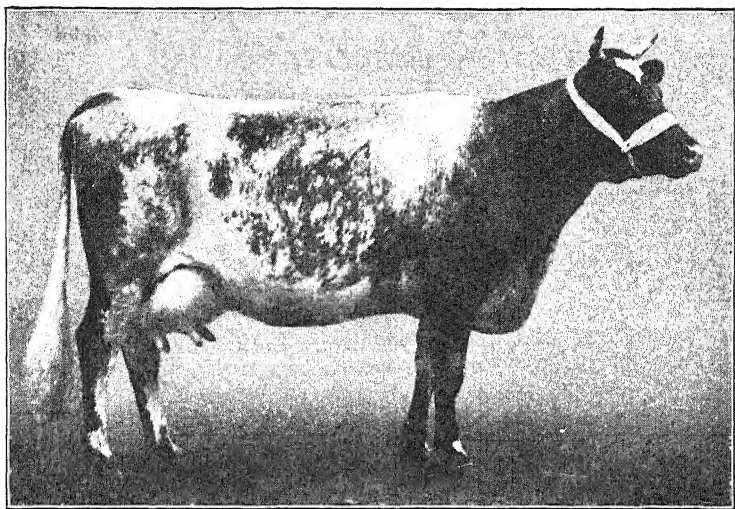
*Breeder:—*Mr. Bean.

Details of thirteen body measurements given on page 118.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	Not recorded ...	—	—	—	lbs.	—	—	lbs.
2	Not recorded ...	—	—	—	—	—	—	—
3	1 June, 1936 ...	4	328	117	12,540½	—	—	—
*4	24 Aug., 1937 ...	—	—	—	—	—	—	—

* Record incomplete for 4th lactation.



"PRETTY LASS." Catalogue number 72.

Exhibited in Class 4 (for Non-Pedigree Dairy Shorthorn Cow).

B.D.F.A. official photograph, taken on October 20th, 1937.

Date of birth, unknown.

Prizes won at the London Dairy Show, 1937.—First Inspection, Third Milking Trial, Reserve for Coronation Non-Pedigree Dairy Shorthorn Challenge Cup.

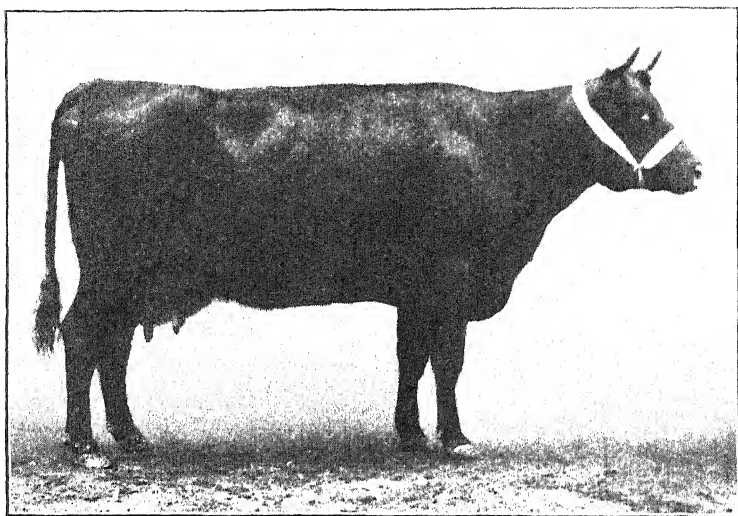
Owners :—Messrs. W. Clarkson & Sons, Bletchley.

Breeder :—Unknown.

Details of thirteen body measurements given on page 118.

LACTATION MILK RECORDS.

No milk records received from owner.



"HISTON FANNY STN." Catalogue number 82.

Exhibited in Class 6 (for Lincolnshire Red Shorthorn Cow).

B.D.F.A. official photograph, taken on October 20th, 1937.

Born December 3rd, 1930. Age when photographed, 6 years 11 months.

*Prizes won at the London Dairy Show, 1937:—*Fourth Inspection, First Milking Trial, First Butter Test, Lincolnshire Red Shorthorn Association's £6 for Milking Trial.

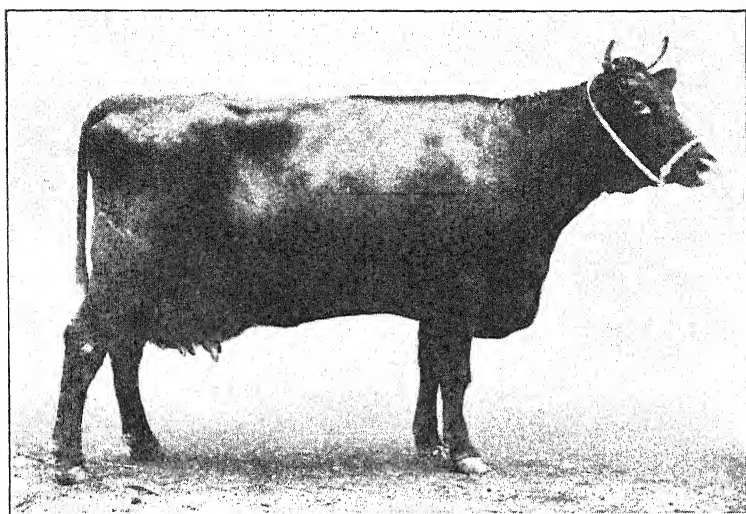
*Owners and Breeders:—*Messrs. Chivers & Sons, Ltd., Histon, Cambridge.

Details of thirteen body measurements given on page 118.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Sucked a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	3 Mar., 1933 ...	5	396	88	lbs. 8,474½	7	3·81	lbs. 323
2	5 July, 1934 ...	5	335	150	6,880½	8	4·03	277
3	7 Nov., 1935 ...	Suckling calves		—	—	—	—	—
4	16 Sept., 1936 ...	39	280	62	5,638	7	3·87	218
*5	2 Oct., 1937 ...	4	—	—	—	—	—	—

* Record incomplete for 5th lactation.



"BURTON VENETIA 2ND." Catalogue number 83.

Exhibited in Class 6 (for Lincolnshire Red Shorthorn Cow).

B.D.F.A. official photograph, taken on October 20th, 1937.

Born November 5th, 1930. Age when photographed, 6 years 11 months.

Prizes won at the London Dairy Show, 1937:—First Inspection, Extra Inspection, Third Milking Trial, Lincolnshire Red Shorthorn Association's £6 for Inspection.

Owners:—Messrs. John Evens & Son, Burton, Lincoln.

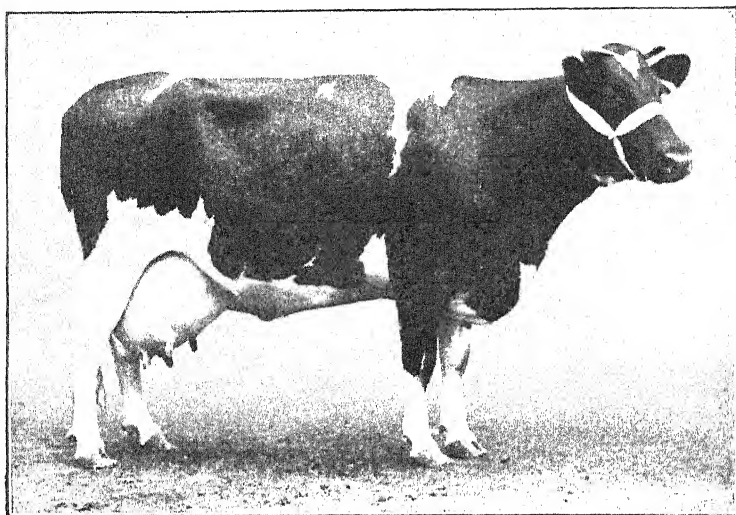
Breeder:—R. Hardy, Esq.

Details of thirteen body measurements given on page 118.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED
BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
					lbs.			lbs.
1	6 Sept., 1933 ...	4	378	59	12,042½	6	3·46	417
2	21 Nov., 1934 ...	4	203	121	9,188	4	3·25	299
3	15 Oct., 1935 ...	4	239	87	10,739½	5	3·49	375
4	9 Sept., 1936 ...	4	315	62	13,117	5	3·76	493
*5	24 Sept., 1937 ...	—	—	—	—	—	—	—

* Record incomplete for 5th lactation.



"LAVENHAM UNIQUE 8TH." Catalogue number 102.

Exhibited in Class 8 (for British Friesian Cow born on or previous to August 1st, 1932).

B.D.F.A. official photograph, taken on October 20th, 1937.

Born July 10th, 1930. Age when photographed, 7 years 3 months.

Prizes won at the London Dairy Show, 1937:—First Milking Trial, Barham Challenge Cup, Shirley Challenge Cup, British Friesian Cattle Society's £8 for Milking Trial, one of the pair winning the Mond Special Prize, one of the group winning the Bledisloe Challenge Trophy.

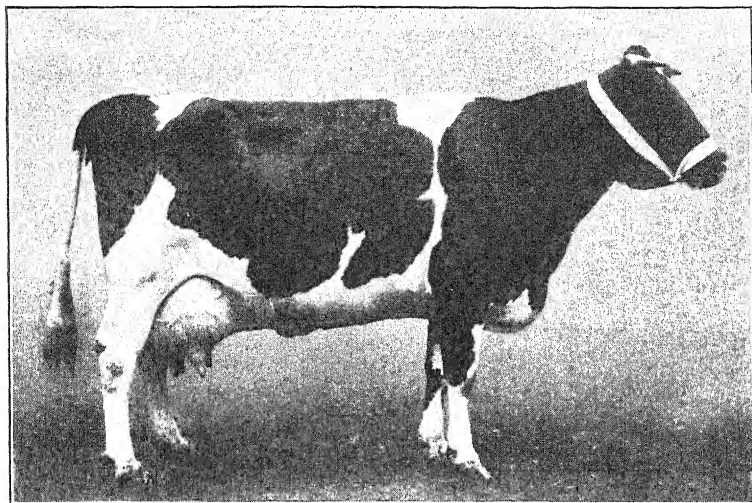
Owners and Breeders:—Messrs. Strutt & Parkers (Farms), Ltd., The Bury, Hatfield Peverel, Chelmsford.

Details of thirteen body measurements given on page 118.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	24 July, 1933 ...	4	268	56	lbs. 8,267½	5	3·35	lbs. 277
2	18 June, 1934 ...	5	386	95	13,817½	8	3·17	438
3	17 Oct., 1935 ...	4	281	362	12,942½	6	3·18	412
4	4 Sept., 1936 ...	4	276	91	10,913½	5	3·50	382
*5	10 Sept., 1937 ...	—	—	—	—	—	—	—

* Record incomplete for 5th lactation.



"WINCHESTER BEATRICE." Catalogue number 110.

Exhibited in Class 8 (for British Friesian Cow born on or previous to August 1st, 1932).

B.D.F.A. official photograph, taken on October 20th, 1937.

Born October 18th, 1929. Age when photographed, 8 years.

Prizes won at the London Dairy Show, 1937:—First Inspection, one of the group winning the Thornton Challenge Cup.

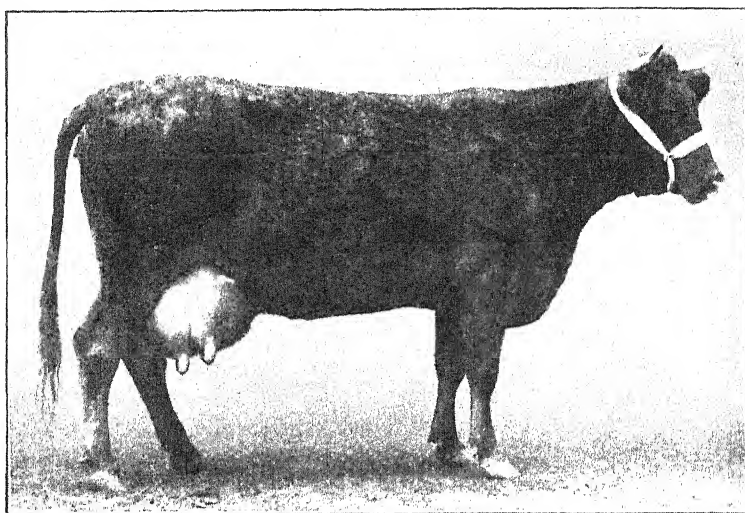
Owner and Breeder:—W. Twentyman, Esq., Moor Court, Sparsholt, Winchester.

Details of thirteen body measurements given on page 118.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Sucked a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	22 Sept., 1932 ...	4	271	48	lbs. 6,518	—	—	lbs. —
2	11 Aug., 1933 ...	4	252	99	7,759½	4	4·01	311
3	1 Aug., 1934 ...	4	104	336	4,929½	—	—	—
4	23 Oct., 1935 ...	4	308	65	11,805	7	3·36	397
5	3 Nov., 1936 ...	4	282	36	12,281	5	3·57	438
*6	21 Sept., 1937 ...	4	—	—	—	—	—	—

* Record incomplete for 6th lactation.



"DIPTFORD DOWNS MILKMAID 13TH." Catalogue number 155.

Exhibited in Class 11 (for South Devon Cow born on or previous to August 1st, 1932).

B.D.F.A. official photograph, taken on October 20th, 1937.

Born April 13th, 1930. Age when photographed, 7 years 6 months.

*Prizes won at the London Dairy Show, 1937:—*Second Inspection, First Milking Trial, First Butter Test, South Devon Herd Book Society's Challenge Cup.

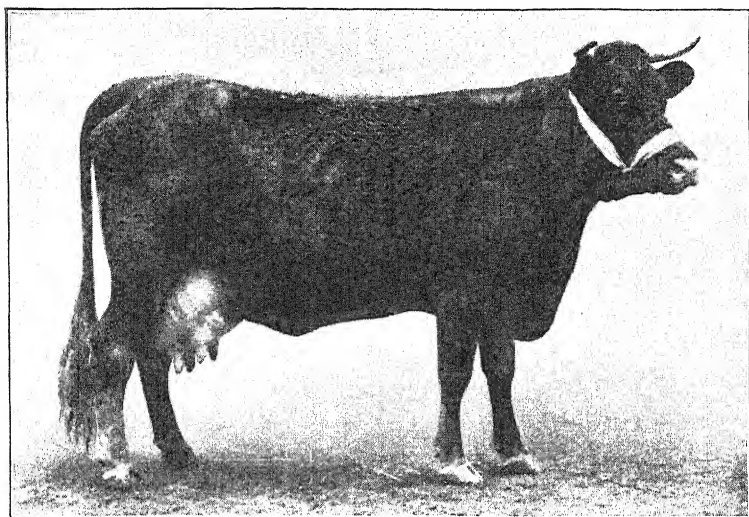
*Owner and Breeder:—*W. Hunt, Esq., Diptford, South Brent, S. Devon.

Details of thirteen body measurements given on page 118.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average percentage.	Lactation yield of Fat.
1	13 Oct., 1932 ...	5	326	44	lbs. 6,557	Not tested.		lbs.
2	28 Oct., 1933 ...	6	421	28	10,014½	Not tested.		
3	21 Jan., 1935 ...	4	396	44	12,192½	Not tested.		
4	9 April, 1936 ...	5	415	44	10,333½	Not tested.		
*5	17 July, 1937 ...	6	—	—	—	—	—	—

* Record incomplete for 5th lactation.



"WINSOR ALMA." Catalogue number 158.

Exhibited in Class 11 (for South Devon Cow born on or previous to August 1st, 1932).

B.D.F.A. official photograph, taken on October 20th, 1937.

Born March 10th, 1931. Age when photographed, 6 years 7 months.

Prizes won at the London Dairy Show, 1937:—First Inspection, Extra Inspection, Second Milking Trial.

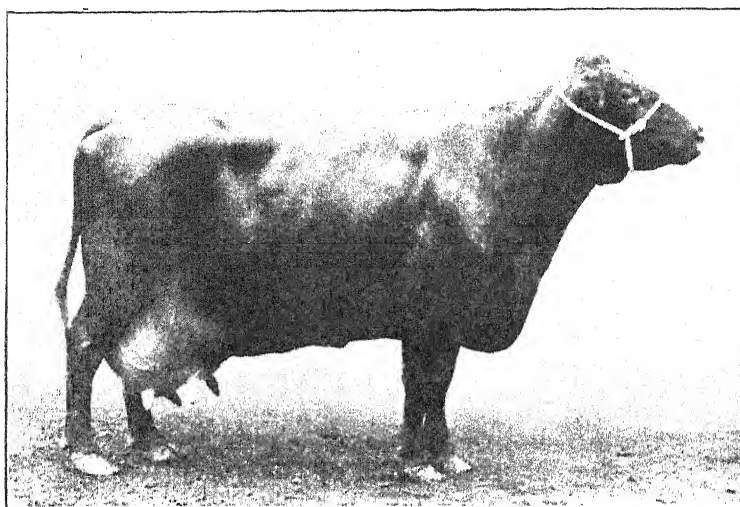
Owner and Breeder:—John T. Dennis, Esq., Winsor, Yealmpton, Devon.

Details of thirteen body measurements given on page 118.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	20 Sept., 1933 ...	—	350	30	lbs. 10,165 $\frac{3}{4}$	Not teste/d.		lbs.
2	16 Oct., 1934 ...	5	260	73	6,873 $\frac{1}{2}$	Not teste/d.		
3	19 Sept., 1935 ...	5	350	27	13,331 $\frac{1}{2}$	Not teste/d.		
4	5 Oct., 1936 ...	10	305	28	9,744	Not teste/d.		
*5	13 Sept., 1937 ...	4	—	—	—	—	—	—

* Record incomplete for 5th lactation.



"MORSTON GIRL 14TH." Catalogue number 168.

Exhibited in Class 15 (for Red Poll Cow born on or previous to August 1st, 1932).

B.D.F.A. official photograph, taken on October 20th, 1937.

Born February 11th, 1928. Age when photographed, 9 years 8 months.

*Prizes won at the London Dairy Show, 1937:—*First Inspection, Extra Inspection, Second Milking Trial, Special Red Poll Cattle Society's £4 for Milking Trial and Inspection.

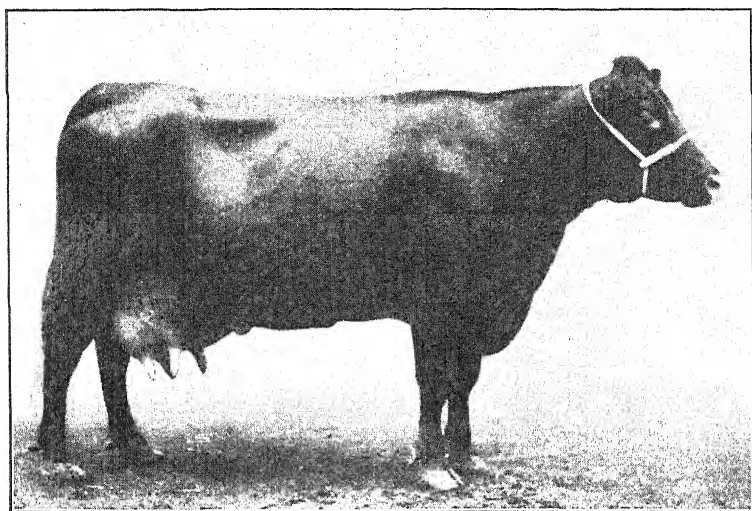
*Owner:—*Col. H. E. Hambro, C.B.E., Coldham Hall, Bury St. Edmunds.

*Breeder:—*A. T. Pratt, Esq.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
					lbs.			lbs.
1	29 Aug., 1931 ...	—	—	—	8,639½	No record.	—	—
2	4 Aug., 1932 ...	4	251	54	15,678½		—	—
3	9 June, 1933 ...	4	397	101	15,678½		—	—
4	24 Oct., 1934 ...	4	294	44	9,760½		3·32	521
5	1 Oct., 1935 ...	9	311	49	16,848½		3·22	514
6	4 Oct., 1936 ...	7	273	74	16,848½		3·55	598
*7	23 Sept., 1937 ...	4	—	—	15,511½		3·07	476

* Record incomplete for 7th lactation.



"KIRTON SUNDIAL." Catalogue number 169.

Exhibited in Class 15 (for Red Poll Cow born on or previous to August 1st, 1932).

B.D.F.A. official photograph, taken on October 20th, 1937.

Born January 27th, 1932. Age when photographed, 5 years 9 months.

*Prizes won at the London Dairy Show, 1937:—*Second Inspection, First Milking Trial, First Butter Test, Morrison Challenge Trophy, Thornton Challenge Cup, Red Poll Cattle Society's £4 for Milking Trial and Inspection.

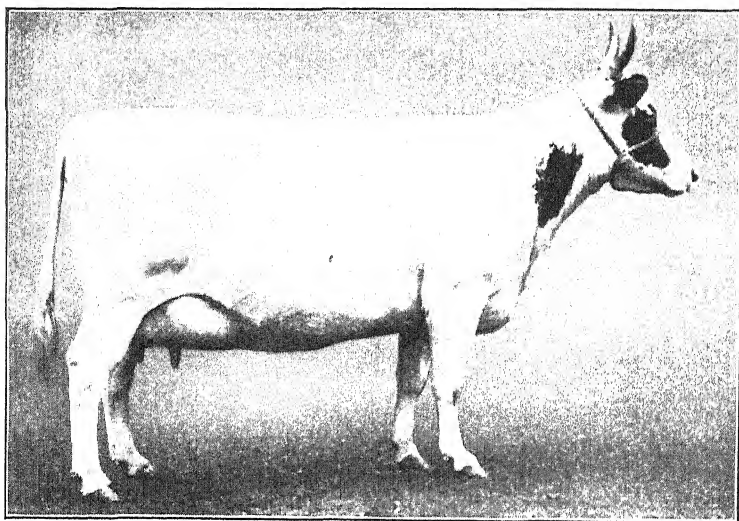
*Owner and Breeder:—*Stuart Paul, Esq., Kirton Lodge, Ipswich.

Details of thirteen body measurements given on page 118.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	27 May, 1935 ...	5	416	38	lbs. 17,063 $\frac{3}{4}$	—	—	lbs. —
2	28 Aug., 1936 ...	4	338	17	20,530 $\frac{1}{2}$	5	3.61	741
*3	22 Aug., 1937 ...	5	—	—	—	—	—	—

* Record incomplete for 3rd lactation.



“GARSTON ORANGE BLOSSOM.” Catalogue number 203.

Exhibited in Class 19 (for Ayrshire Cow born on or previous to August 1st, 1932).

B.D.F.A. official photograph, taken on October 20th, 1937.

Born November 12th, 1931. Age when photographed, 5 years 11 months.

*Prizes won at the London Dairy Show, 1937:—*First Inspection, Extra Inspection, Fourth Milking Trial, Ayrshire Cattle Herd Book Society's £5 for Inspection, Milking Trial and Butter Test.

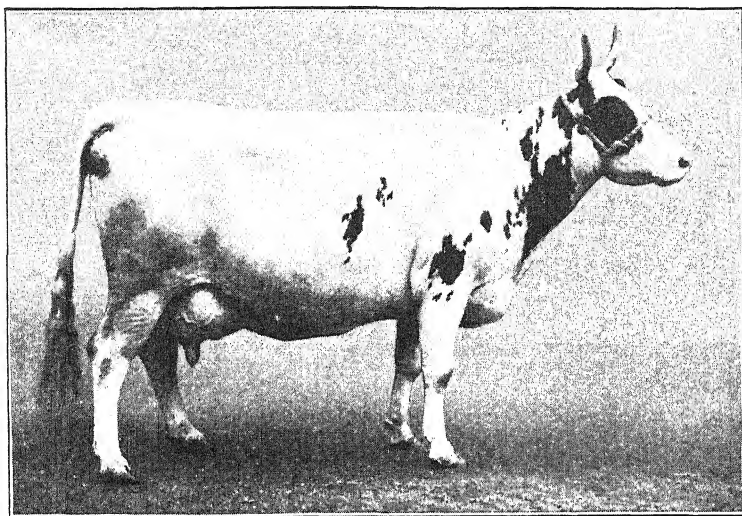
*Owner:—*D. Mackay, Esq., Hatfield, Herts.

*Breeder:—*Mrs. Bourne.

Details of thirteen body measurements given on page 118.

LACTATION MILK RECORDS.

No milk records received from owner.



“BARR MILKMAID.” Catalogue number 210.

Exhibited in Class 19 (for Ayrshire Cow born on or previous to August 1st, 1932).

B.D.F.A. official photograph, taken on October 20th, 1937.

Born November 14th, 1928. Age when photographed, 8 years 11 months.

Prizes won at the London Dairy Show, 1937:—First Milking Trial.

Owners:—Messrs. Graham Bros., Whytings Farm, Horsham, Sussex.

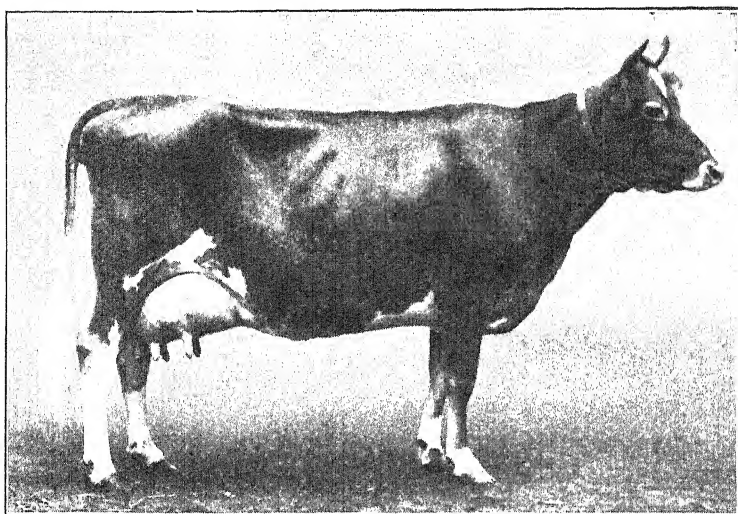
Breeders:—Messrs. A. & A. Kirkpatrick.

Details of thirteen body measurements given on page 118.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	Nov., 1931 ...	16	294	9	lbs. 7,628	—	—	lbs. —
2	16 Oct., 1932 ...	4	285	65	6,902½	—	—	—
3	5 Oct., 1933 ...	4	291	75	8,148½	—	—	—
4	10 Oct., 1934 ...	4	266	73	9,271¾	6	3·93	364
5	18 Sept., 1935 ...	4	289	71	13,367	6	3·84	513
6	16 Sept., 1936 ...	3	287	86	14,768½	7	3·86	570
*7	27 Sept., 1937 ...	—	—	—	—	—	—	—

* Record incomplete for 7th lactation.



“LOCKINGE LADY BELLE 6TH.” Catalogue number 271.

Exhibited in Class 22 (for Guernsey Cow born on or previous to August 1st, 1932).

B.D.F.A. official photograph, taken on October 20th, 1937.

Born May 6th, 1932. Age when photographed, 5 years 5 months.

*Prizes won at the London Dairy Show, 1937:—*First Inspection, Second Milking Trial, Second Butter Test, English Guernsey Cattle Society's £10 for Inspection, Reserve for Stagenhoe Challenge Cup.

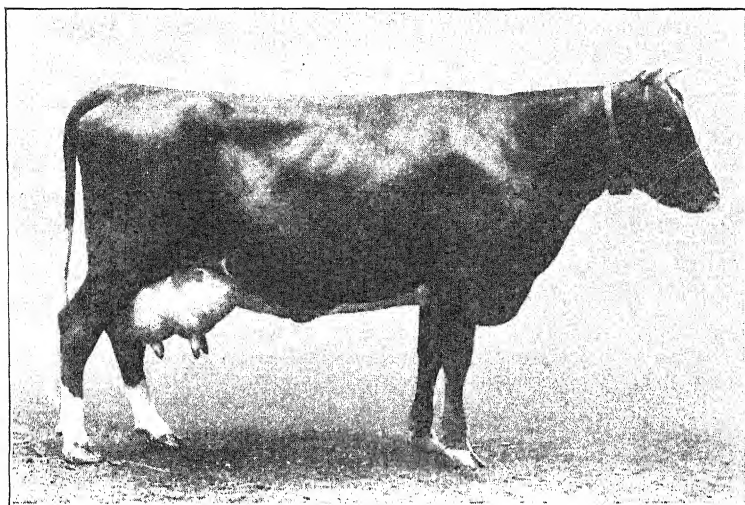
*Owner and Breeder:—*A. T. Loyd, Esq., Lockinge House, Wantage, Berks.

Details of thirteen body measurements given on page 118.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	3 June, 1935 ...	13	371	48	lbs. 8,041½	7	4.70	lbs. 378
2	8 Aug., 1936 ...	4	359	56	11,187½	7	4.82	539
*3	1 Oct., 1937 ...	4	—	—	—	—	—	—

* Record incomplete for 3rd lactation.



"BROAD OAK MADGE." Catalogue number 275.

Exhibited in Class 22 (for Guernsey Cow born on or previous to August 1st, 1932).

B.D.F.A. official photograph, taken on October 23rd, 1937.

Born October 23rd, 1931. Age when photographed, 6 years.

Prizes won at the London Dairy Show, 1937:—Third Inspection, First Milking Trial, Third Butter Test, Stagenhoe Challenge Cup, English Guernsey Cattle Society's £10 for Milking Trial and Butter Test.

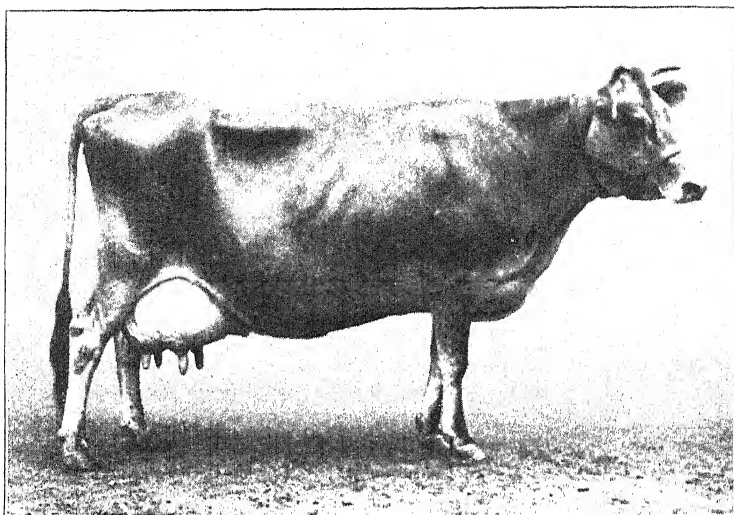
Owner:—S. R. Hicks, Esq., Blacksole Farm, Herne Bay, Kent.

Breeder:—Viscount Chetwynd.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	15 May, 1934 ...	5	332	17	lbs. 7,929½	6	5.28	lbs. 419
2	4 May, 1935 ...	5	295	33	8,237½	6	4.79	395
3	1 April, 1936 ...	11	322	176	8,316½	6	4.84	403
*4	23 Aug., 1937 ...	4	—	—	—	—	—	—

* Record incomplete for 4th lactation.



"ELIZABETH'S BEAUTY." Catalogue number 302.

Exhibited in Class 25 (for Jersey Cow born on or previous to August 1st, 1932).

B.D.F.A. official photograph, taken on October 20th, 1937.

Born February 25th, 1929. Age when photographed, 8 years 8 months.

*Prizes won at the London Dairy Show, 1937:—*First Inspection, Extra Inspection.

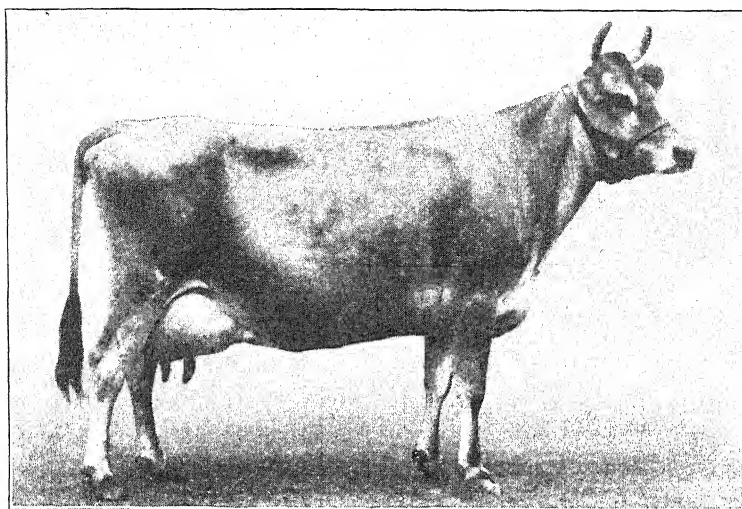
*Owner:—*Mrs. A. M. Hall, Shipton Court, Shipton-under-Wychwood, Oxon.

*Breeder:—*Major C. Riley.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Test		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat
1	Recorded in Jersey.	—	—	—	lbs.	—	—	lbs.
2	Recorded in Jersey.	—	—	—	—	—	—	—
3	30 Nov., 1934 ...	4	375	30	12,919	8	4.80	620
4	13 Jan., 1936 ...	4	114	477	2,910½	—	—	—
*5	30 Aug., 1937 ...	—	—	—	—	—	—	—

* Record incomplete for 5th lactation.



"PEARCELANDS EILEEN 10TH." Catalogue number 306.

Exhibited in Class 25 (for Jersey Cow born on or previous to August 1st, 1932).

B.D.F.A. official photograph, taken on October 20th, 1937.

Born July 2nd, 1931. Age when photographed, 6 years 4 months.

*Prizes won at the London Dairy Show, 1937:—*Fourth Inspection, First Milking Trial, Third Butter Test, Blythwood Production Challenge Bowl, Loxwood Jubilee Challenge Cup, Jersey Production Challenge Trophy.

*Owner:—*J. McCallum, Esq., Grange Farm, Chartridge, Chesham.

*Breeders:—*P. J. H. & Dairies, Ltd.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	18 Dec., 1933 ...	4	350	52	lbs. 10,822	7	5.05	lbs. 547
2	28 Jan., 1935 ...	5	344	77	13,145½	8	4.96	652
3	29 Mar., 1936 ...	4	373	50	18,435½	8	4.90	903
*4	6 June, 1937 ...	4	—	—	—	—	—	—

* Record incomplete for 4th lactation.

MEASUREMENTS OF FIRST PRIZE WINNERS, LONDON DAIRY SHOW, 1937.
TAKEN OCTOBER 20TH, 1937, BY S. BARTLETT.

Catalogue Number of Animal	...	1	64	72	82	83	102	110	155	158	168	203	210	271	275	302	306
First Prize— Inspection or Milking Trial	...	Inspr. and M.T.	M.T.	Inspr.	M.T.	Inspr.	M.T.	Inspr.	M.T.	Inspr.	Inspr.	M.T.	M.T.	Inspr.	M.T.	Inspr.	M.T.
Name of Animal.		Forrethorpe Znd.	Mary.	Pretty Lass.	Ellison Panny Sh.	Burton Veneta Znd.	Lavendham Unique Sh.	Wharfedale Wharfedale	Richard Downes Milkmaid Lb.	Wharfedale Alma.	Moreton Girl Lb.	Ketton Shrub.	Orange Blossom.	Milkmaid Lb.	Lockinge Lb.	Boord Oak Midge.	Elizabeth's Beauty.
Breed.		Short-horn.	Short-horn.	Short-horn.	Lincoln Red.	Lincoln Red.	British Friesian.	British Friesian	South Devon.	South Devon.	Red Poll.	Red Poll.	Ayrshire.	Ayrshire.	Guernsey.	Guernsey.	Jersey.
Live Weight
(a) Length of Body
(b) Length of Hindquarters
(c) Height at Withers
(d) Height at Hooks
(e) Depth of Chest
(f) Width of Chest
(g) Width of Hooks
(h) Width of Thurls
(i) Girth of Barrel
(j) Girth Behind Shoulder
(m) Girth of Foreleg
(n) Length of Head
(p) Width of Head

Measurements.

ANNUAL REPORT OF THE CONSULTING CHEMIST.

By T. J. DRAKELEY, D.Sc., Ph.D., F.I.C., F.C.S., F.I.R.I.

During the year 1937, the samples submitted by members for analysis and examination have been varied in character, but, as in former years, the majority of the samples has been sent for routine testing.

It may be noted that a number of the milk samples were below the Government minimum presumptive standard. It should, however, be observed that with bulked milk, such as that delivered by the large distributing concerns in towns, the likelihood of a sample being below standard seems to be remote, and no single sample of this character was found during the year to be below standard.

The other analyses made for the members call for no special comment.

THE DAIRY SHOW OF 1937.

By SYDNEY EDWARDS.

The 59th Annual Show opened on the 19th October and closed on the 22nd October. The dairy cows were admitted from 4 p.m. on Thursday, the 14th October, until 10 p.m. on Friday, the 15th October.

By rearrangement of contracts it was found possible to have the cattle stalls erected in readiness for the animals on their arrival, enabling them to take up the position they would occupy throughout their stay in the Agricultural Hall. The owners of some animals however, by omitting to forward the postcards provided by the Association, stating what animals were being sent to the Show and the time they could be expected to arrive, made the task of the stewards more difficult. The weighing of the animals took place during the forenoon of Saturday, 16th October.

In accordance with the custom of past years, the milk yields of the Sunday and Monday prior to the official opening of the Show were used for the determination of the Milking Trials and Butter Tests competitions.

Several animals were unable to be sent to the Show owing to an outbreak of foot and mouth disease, and it was extremely unfortunate that, owing to further outbreaks, ten cows and three goats had to be removed from the Hall on Monday a few hours before the completion of the Milking Trials and Butter Tests.

The Show opened on Tuesday at 8 a.m. to enable the visitors to witness the inspection judging of cattle which was carried out in six rings. The removal of the trade stands from the Gilbey Hall and the extra space thereby allotted for judging rings was much appreciated by the Judges in the carrying out of their duties.

CATTLE.

Dairy Shorthorns were well represented. Eleven animals came before the Judges in the senior cow class. The winner, a typical Shorthorn of exceptional development, and making her third appearance at the Dairy Show, was "Fothering Foggathorpe 2nd." The second prize animal had not the scope of the winner, but was a very pleasing type. The third was a very neat cow lacking the scale of the leaders.

Thirteen young cows appeared before the Judges, the leader being an outstanding young animal with a wonderful bag. She was followed by a good topped cow that had not the width or the scope of milk vessel. The third was a big-framed, deep cow with a good bag, but with scarcely the quality of the other two. In the heifer class, eight animals paraded. An outstanding winner was found in "Huxham Duchess Rose 9th," later placed reserve to "Fothering Foggathorpe 2nd" for the "Calvert" Challenge Cup, awarded to the owner of the best Pedigree Dairy Shorthorn Cow or Heifer upon inspection only.

Dairy Shorthorn cows not eligible for Classes 1 and 2 were few in number, but did well in the Milking Trials and Butter Tests. The four animals entered in the non-pedigree heifer class were all present. The winner was a very nice animal and showed promise of making a good quality dairy cow.

Lincoln Red Shorthorns were well represented. Animals from Messrs. John Evens & Son were drawn to the top in both classes allotted to the breed.

British Friesians made an impressive show. The class for mature cows contained excellent specimens of the breed and were obviously exceptional milk producers. The young cows were unusually good, with pleasing udders. Heifers, although few, were well vesselled and very milky.

South Devons were numerically weak, but the animals present were full of quality and carried shapely udders.

The class provided for Devon cows had no entry.

Red Polls had many absentees, but made up in quality for what they lacked in numbers.

The class for Welsh Black cows was cancelled owing to lack of entries.

Ayrshires were present in force, no less than 78 animals being entered in the classes for that breed. Mature cows were big-framed, typical specimens with wonderfully level udders and well-placed teats. The young cows were particularly good, with udders and teats to please the most fastidious. Heifers showed distinct promise and were much admired.

Guernseys suffered from the disease restrictions which reduced the number paraded before the Judges to three in the mature cow class. All were good specimens. Only two young cows were shown, both dairy-like animals. Heifers were a good lot, of pleasing appearance.

Jerseys were a very strong section of 51 entries. The quality of the mature cows was well up to the average. The

prize-winner was a grand cow of good type, with firm shoulders, good top and a shapely udder. The young cows were possibly the best class for quality; the leader, a three-year-old of fine type, having probably the best udder in the Jersey classes. The heifers were a very good class, with an English-bred animal outstanding.

The classes for Kerry cows and Kerry heifers did not attract an entry.

Those for Dexter cows and Dexter heifers were cancelled owing to lack of entries.

BULLS (Progeny of).

Six breeds were represented in the classes in which awards are made on the basis of progeny performance.

THE "BLEDISLOE" CHALLENGE TROPHY.

The inspection judging of the teams qualified to parade for the Bledisloe Trophy took place on Wednesday afternoon. The task of placing the teams was entrusted to Mr. Walter Wilson, who awarded the maximum of 500 points to the team of Dairy Shorthorns, which comprised a level lot of young cows with good bags and teats and of the true Dairy Shorthorn type.

The Ayrshires followed with 480 points, having a nice team of good quality cows that were extremely uniform.

British Friesians were awarded 450 points. This team consisted of great, good, big cows with large bags and real milking appearance. The Jerseys, which supplied a very nice team of cows with good udders and well-placed teats, were 10 points below the Friesian team.

The addition of the points gained in the Milking Trials resulted in the trophy being awarded to the British Friesian team for a total of 1,542.88 points. The Ayrshire team gained the reserve position with 1,508.78 points.

SUPREME INDIVIDUAL CHALLENGE TROPHY.

The award of the Supreme Trophy to the owner of the cow gaining the greatest number of points on Inspection, in the Milking Trials and in the Butter Tests, always creates great interest. Fourteen animals of seven different breeds came before Mr. T. C. Goodwin to be placed and points allotted them.

Mr. C. J. Allday's "Calvert" Cup winner was drawn to the top of the line; next to her stood the Ayrshire cow that led in the young cow class of her breed, followed by the Shorthorn

cow that won the young cow class in the Shorthorn section. Fourth place was taken by an Ayrshire that had already won the "Rowallan" Challenge Cup and eventually gained the Supreme Trophy for her owner, Mr. Alex Watson, Barboigh, Mauchline. Fifth in the line stood Mr. Cecil Ball's Friesian, "Oakham Dainty Gem," the reserve for the Supreme Trophy and herself the daughter of a former Supreme Champion, "Oakham Dainty."

GOATS.

The goats at this year's Show were an exceptional lot, both in conformation, size, and texture of udders. Many of the exhibits yielded a large quantity of milk, thereby filling a very useful place as utility animals.

CHEESE.

Two new classes for National Mark Cheshire and Stilton cheese were well supported and made the total cheese entry in excess of 1936.

Stiltons (12 cheeses) had 16 entries. The National Mark class (six cheeses) attracted 13 entries. First and second prizes in both classes were awarded to Long Clawson Dairy, Ltd.

The Cheddar exhibits were well up to the standard expected of cheese exhibited at the London Dairy Show. The general finish and appearance has much improved during recent years.

Cheddar Truckles (six cheeses) had 24 entries of a high standard; the winning exhibit was exceptionally good, and the maker was awarded the "City of London" Cup for the best exhibit of Cheddar cheese.

The class for two cheeses not less than 40 lb. each attracted 82 entries. The prize exhibits were very choice, but a number of unplaced lots were distinctly off flavour.

The Factory Cheddar cheese class had 22 entries. The first prize went to R. G. Napstone, Glastonbury; second and third prizes were awarded to the Scottish Milk Marketing Board and the Milk Marketing Board, Aspatia, Cumberland, for some exceedingly good cheese, well finished and of good texture and quality.

Cheddar cheese, coloured or uncoloured, from makers in the British Empire (Overseas) attracted 38 entries from New Zealand, Australia and South Africa. Many of the exhibits were of outstanding quality.

The Cheshire cheese classes were a strong feature of the Show. The class for makers who had never won a prize at the

PARTICULARS OF BACON PIG CLASSES DAIRY SHOW, 1937.

CLASSES DAIRY SHOW, 1907.

Catalogue Number.	Exhibitor's Name.	Breed.	Average Age.	Average Dress Weight.		Live Weight.	Dead Weight.	Percentage of Live Weight		Bacon Weight	Percentage Loss Live to Bacon Weight.	Thickness of Back Fat.	Thickness of Streak.	Length for Weight.	Proportion of Cuts.	Reduction of Lean to Fat on Cuts.	Proportion of Lean to Fat on Cut Side.	Shape of Gammon.	Quality (Firmness) of Fat.	Firmness of Hams.	Firmness of Thigh.	Total.	Family.				Awards.	
				Mths.	Days.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	Pts.	Pts.	Pts.	Pts.	Pts.	Pts.	Pts.	Pts.	Pts.	Pts.	100	50	50	100	100	200	Pts.
CLASS 92.—Four Pigs—pure-bred.																												
1121	Earl of Radnor ...	4	Large White ...	6	9	150-0	847	632	25-3	462	45-0	15	7	10	8	5	18	4	13	3	3	86	—	—	—	—	—	1st.
1125	W. A. Whidden ...	4	Large White ...	6	6	130-2	780	601	22-4	443	42-2	8	7	7	6	4	15	5	14	4	4	74	—	—	—	—	—	3rd.
1127	John White ...	4	Large White ...	6	14	155-2	791	621	21-4	456	42-3	12	9	9	7	4	16	4	13	4	3	81	—	—	—	—	—	2nd.
CLASS 93.—Two Pigs—pure-bred.																												
1129	Earl of Radnor ...	2	Large White ...	6	9	155-0	413	310	24-9	227	45-0	15	9	10	9	5	20	5	13	4	3	93	—	—	—	—	—	1st.
1130	Sir W. S. H. Parker, Bt.	2	Large White ...	6	15	145-0	376	286	25-3	214	43-0	6	8	8	7	4	18	4	14	4	3	76	—	—	—	—	—	Res.
1133	R. Ewart Owen ...	2	Welsh ...	6	6	157-5	413	315	25-7	226	42-8	10	10	8	3	16	5	13	5	3	81	—	—	—	—	—	3rd.	
1135	W. A. Whidden ...	2	Large White ...	6	5	140-5	363	281	22-5	207	42-9	7	8	7	3	16	4	15	5	3	75	—	—	—	—	—	2nd.	
1139	G. Bletcher ...	2	Large White ...	6	2	152-5	392	305	22-1	224	42-8	15	9	9	5	19	5	13	4	4	91	—	—	—	—	—	2nd.	
1140	R. Ewart Owen ...	2	Welsh ...	6	15	156-5	405	313	22-3	222	42-4	8	8	6	7	3	16	5	13	4	3	73	—	—	—	—	—	
1141	Viscount Lyndington ...	2	Wessex Saddleback ...	6	7	152-5	402	305	21-1	225	44-0	7	9	5	7	2	17	5	14	4	4	74	—	—	—	—	—	
CLASS 94.—Two Pigs—first cross.																												
1145	T. L. Ward ...	2	Large White and Large Black.	5	15	155-0	405	310	22-1	220	43-0	10	7	8	7	3	17	4	12	4	4	76	—	—	—	—	—	3rd.
1147	Miss J. K. B. Little ...	2	Large White and Large Black.	5	7	152-0	394	304	22-8	225	42-8	7	10	9	8	3	15	3	14	4	4	77	—	—	—	—	—	2nd.
1150	T. L. Ward ...	2	Large White and Large Black.	5	16	152-5	408	305	22-7	223	42-9	8	10	6	7	3	13	3	14	4	4	72	—	—	—	—	—	
1152	H. N. Brookings ...	2	Large White and Nat. Large White Lop-eared.	6	8	150-0	398	318	20-1	255	40-9	9	9	9	10	9	5	13	4	13	4	85	—	—	—	—	—	1st.
CLASS 95.—Four Pigs—recorded.																												
1156	T. L. Ward ...	4	Large White and Large Black.	5	15	153-0	807	612	24-1	445	44-3	9	6	10	9	4	18	5	13	4	4	82	50	50	100	82	282	1st Class.
1158	H. R. Davidson ...	4	Large White ...	6	5	154-0	789	616	21-6	454	42-2	12	9	10	10	5	16	5	14	4	4	80	45	46	80	80	280	1st Class.
1160	T. L. Ward ...	4	Large White and Large Black.	5	16	156-2	823	637	22-0	468	43-1	14	9	9	9	4	14	5	13	4	4	85	40	50	100	85	275	1st Class.

* Whitley Cup.

† Beale Cup.

‡ Bledsoe Cup.

§ Harris Cup.

|| Pig Decoying Cup.

** Wells Cup.

Dairy Show provided one of the surprises of the Show. Mr. T. W. Pearnall was awarded first prize in this class, afterwards winning the "City of London" Cup and the "Bland" Cup for the best exhibit of Cheshire cheese. Finally, in competition with all varieties, Mr. Pearnall carried off the "Lonsdale" Trophy for the best exhibit of cheese made on the Exhibitor's farm in England, Scotland or Wales.

Ayrshire Dunlops provided a very good class of marketable cheese of outstanding flavour. The prize-winning exhibit also took the Ayrshire Challenge Trophy given by Lord Rowallan to the maker of the best exhibit made on a farm in Scotland.

Leicesters, with an entry of eight, were of fair quality, with a winner of outstanding merit.

Lancashire cheese were eight entries less than in 1936. The standard of the exhibits was satisfactory.

Derby cheese classes attracted a small entry of good quality.

Double and Single Gloster were a moderate entry, the prize lots being of choice quality.

Caerphilly cheese were level and true to type, but a few of the unplaced lots were too soft, probably due to excess of moisture.

The classes for Small Hard-Pressed cheeses attracted a good entry of high quality.

The Inter-County competitions failed to attract many entries. The Prize and Inter-County Challenge Shield were awarded to the Monmouthshire exhibit.

The class for Sweet Cream cheese attracted 14 entries. All were of good quality, carefully and neatly packed.

Unripened Soft cheese had 10 entries. The prize-winning lots were excellent.

Collections of Produce were uneven in quality. In many cases the packing was below standard.

BACON AND HAMS.

The classes for Bacon, open to curers only residing in Great Britain or Northern Ireland, were cancelled owing to lack of entries.

The entries for the "Whitley" and "Beale" Challenge Cups were chiefly of the Large White breed. Many of the entries failed to conform to the qualifying standards laid down, and, in accordance with the regulations, were not exhibited at the Show. The Earl of Radnor's exhibits were awarded both cups.

Five distinct crosses were entered for the "Bledisloe" Bacon Challenge Cup for two First-Cross pigs. Mr. H. N. Brooking's exhibits of Large White \times National Long White Lop-eared secured the award.

The "Wills" Challenge Cup for Large White \times Large Black exhibits was won by Miss J. K. B. Little, whose exhibits were one point ahead of those sent by Mr. T. L. Ward.

In the class for Recorded Bacon Pigs—four pigs from the same litter—Mr. T. L. Ward was again successful with exhibits of Large White \times Large Black, thus winning the Pig Recording Challenge Cup for the fourth time with the same cross of pig.

The "Harris" Cup for four best sides was awarded to the Earl of Radnor's "Beale" Cup winners.

The Judge of the Bacon classes reports a great improvement in length and narrowness of the sides, but was disappointed to find such thin streaks.

Of the 17 entries in the class for Bacon from Overseas, 14 came from Canada and the remainder from South Africa. The prize-winning lots were very good bacon from a Canadian factory.

The various classes for Hams were well filled, the exhibits being a level lot, well turned out and generally of excellent flavour.

BUTTER.

The 2-lb. classes were well filled, generally of excellent flavour, and of good marketable appearance. In some cases there was an excess of moisture and over-working and consequent poor texture was in evidence.

Butter sent in wooden boxes was of decidedly good quality.

Butter made up in the most attractive form for table use was of good quality and attractive appearance. The ornamental butter was very good and well displayed.

The Salted and Unsalted butter from Overseas was of a high standard of quality.

CREAM.

Clotted cream from Wholesale Creameries was a very small entry, showing excellent quality of clear colour and good flavour.

Pasteurised Cream from Wholesale Creameries attracted a good entry of 13 lots, the majority of good flavour. The difference in colour gave the exhibits a patchy appearance.

Clotted Cream not open to Wholesale Creameries. Of the 16 entries in the class, one had gone sour. The remainder were of good colour and flavour.

Cream other than clotted. The 11 lots were all of good flavour and colour.

BOTTLED FRUIT, VEGETABLES, JAM, &c.

The standard throughout the section has risen since last year, the most marked improvement being in the Fruit Syrup class. In nearly all classes judging was difficult owing to the even standard of the exhibits.

HONEY.

The quality of the Honey staged was excellent, but entries were few in many of the classes.

JUNKET MAKING CONTESTS.

The contests were keenly contested and the work in the sections attained a high standard. In some cases marks were lost for washing up and finish. The championship contest resulted in the maximum marks of 100 being given to Miss R. James, of Monmouthshire. The Judge reports that the whole class was worthy of a prize.

BUTTER MAKING CONTESTS.

The Butter Making Competitions retain their popularity and entries were well up to the average. Generally the competitors did very good work. The chief faults were overworking the butter, thereby spoiling the texture, and failure to complete the work in the allotted time. The championship was taken by Miss N. M. Paul, of Cornwall.

MILKERS' CONTESTS.

Most of the entrants displayed considerable skill in milking and for the most part the stripping was well done, but there were a few marked exceptions. The standard of efficiency in the Championship class was exceedingly high. The Judges were impressed with the efficiency of the women competitors, who were thorough in their work and had taken pains to acquire correct methods. Miss N. Evans, of Pembrokeshire, took the Champion Award.

COW JUDGING CONTESTS.

The contest for teams of students from Agricultural Colleges, Farm Institutes and/or County Councils, brought forward

teams from the North and West of England and Wales. Competitors were very keen and gave evidence of sound training; on the whole judging was well done, some individuals made a brilliant show.

New features were a Perpetual Challenge Trophy given by the "Farmer and Stockbreeder" for the best stand. This award went to the Dairy Supply Co.

The "Farmers' Weekly" erected in the Produce Hall a stand showing home-made Fruit Syrups and Wines that were entered for a final competition. The cheques to the prizewinners were presented by Mrs. W. S. Morrison.

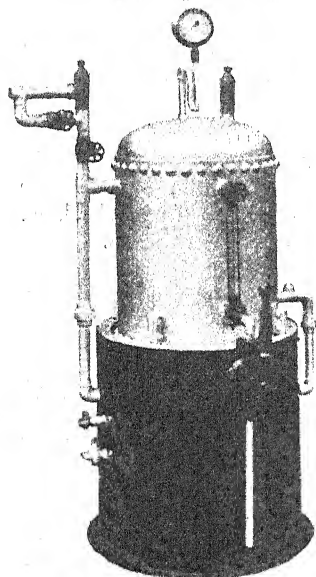
The President, Lord Eltisley, was early in attendance and was very fully occupied, presiding at the various functions, and presenting the Trophies and Cups to the successful exhibitors. In the absence of the President on the last day of the Show, Lady Eltisley consented to make the presentation of the "Desborough" Cup to the champion butter maker, the "Daily Mail" Bowl to the champion junket maker, also the "Farmer and Stockbreeder" Trophy for the best stand, to Capt. C. C. F. Smith, M.C., Managing Director of the Dairy Supply Co.

New and Improved Inventions, Dairy Show, 1937.

DAIRY APPLIANCES.

By J. G. STAPLETON AND E. CAPSTICK.

The New and Improved Invention Classes at the 1937 London Dairy Show of the British Dairy Farmers' Association were well supported by entries in all three Classes, and the outstanding feature was the continued improvement of Sterilizing Outfits suitable for farmers producing milk.



Clifton H.P. Electric Boiler.

In Class 148, for any new apparatus or invention, there were eight entries. Messrs. J. W. Woolley & Co., Ltd., of Clifton, Tamworth, entered an Electrically-Heated Steam Boiler, which was awarded a Silver Medal. The chief feature of this unit was the coupling of the boiler to the pressure-fed water cylinder, which automatically provided and maintained a supply of water at a constant steam pressure. The evaporation was 83 per cent. efficient at the rate of 45 lbs. per hour and the time required for steam raising from cold was only 11 to 14 minutes—extraordinarily good. The whole equipment was well constructed.

Messrs. Gascoigne & Co., Ltd., of Castle Street, Reading, exhibited their Auto-Release Milking Plant with further improvements and secured a Silver Medal. The points to note with regard to the improvements referred to are:—

1. *The Milk Controlling Tap and Milk Flow Glass.*—The milk tap is so constructed that when turned to the "milk" position the timing gear is put into operation, and the milk flows to the milk pipe line via a flow glass which permits the flow of milk to be seen.

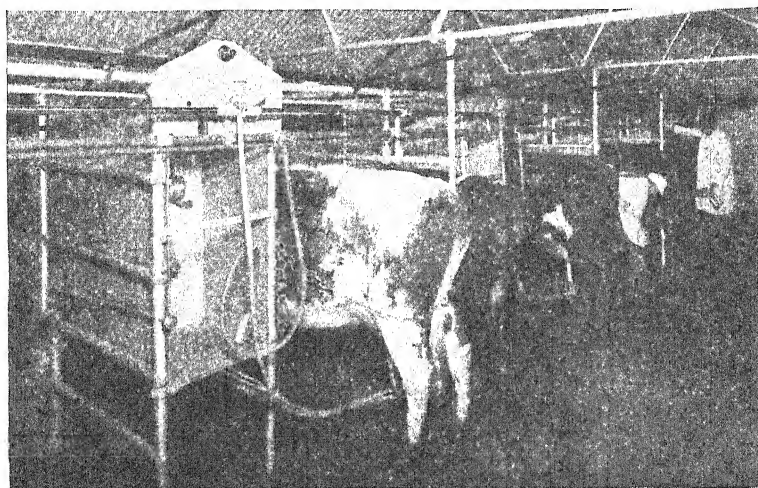
2. *The Pendulum Pulsator.*—The Pulsator operates by means of a pendulum valve which is actuated by the pendulum. This valve controls the vacuum and atmosphere supply to the

diaphragm chambers, and these latter in turn operate the slide valve controlling the pulsations to the teat cups. The periodicity of the pulsations is determined by the length of the pendulum. It is claimed that the pulsator fulfils the following conditions:—

(a) Gives non-variable pulsation; (b) Independent of power unit or vacuum pump; (c) Independent of any other pulsators.

3. *The Timing Gear.*—This unit is operated by the pendulum pulsator. The beats of the pendulum measure the period from the putting on of the teat cups, and at the end of four minutes makes an electrical connection which lights a red lamp.

4. *The Releaser.*—The function of the releaser is to release the milk from the vacuum line without breaking the vacuum. This unit consists of a balanced cylinder retained in a horizontal



Auto-Release Milking Plant.

position by a counterweight. When filled with milk it overbalances and discharges the milk and returns to the horizontal position by means of the counterweight ready for refilling. It is claimed that with this type of releaser the risk of flooding the vacuum system with milk, consequent upon any failure to function, is reduced to a minimum.

5. *The Feed Measuring Hopper.*—This apparatus is installed in the space between adjacent milking stalls and is arranged so that the feed can be deposited in either right or left hand mangers. The arrangements consist of a pivoted hopper, terminating in a rectangular mouth which opens and shuts by

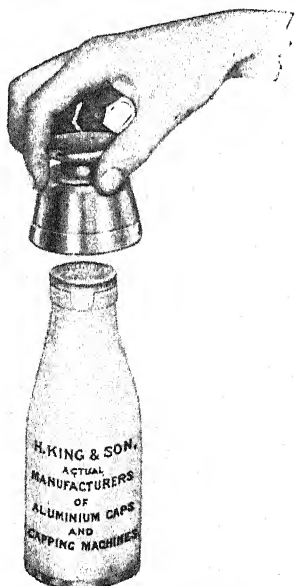
operating a lever which swings the hopper to a position where the opening locates with a feed channel to a skip. The skip is mounted on a rod which is pivoted in the centre and is counter-balanced by a slidable weight which determines the amount of feed. The skip is tiltable and the feed can be emptied into either the right or left-hand mangers. It is claimed for this arrangement that any reluctance of the feed to "flow" is overcome.

The following observations were made on a plant inspected during milking and washing.

The milk controlling tap and milk flow glass is a well-constructed unit, is easily cleaned, and has the advantage over other types in being quickly detachable. The milk flow glass also constitutes an advantage, but should be constructed of glass which will withstand steam sterilization.

The pendulum pulsator is well constructed and as far as could be ascertained, fulfils the claims made. The timing gear is a simple and satisfactorily constructed unit and was accurate to within 10 seconds in timing. The releaser is well constructed, easily cleaned, but the risk of flooding is the same with this type as any other.

The feed measuring hopper worked satisfactorily, but requires considerable strength to operate.



Hand Aluminium Capping Machine.

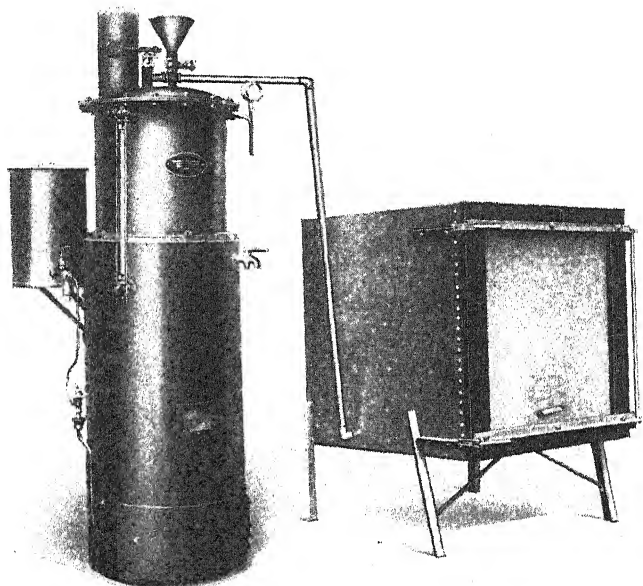
Messrs. Gascoigne have entered an auto-release milking plant for test under the Ministry of Agriculture's Machinery Testing Scheme, but the plant has not yet been installed at the National Institute for Research in Dairying, so no information is available from this source.

A Bronze Medal was awarded to an entry by Messrs. H. King & Son, of 23, North Cross Road, London, S.E., for a Hand Aluminium Capping Machine, suitable for use on the farm, and the price of this machine is £2 5s. and is strongly constructed and of simple design.

In Class 149, for Oil or Gas-fired Sterilizing Outfits with chest of not less than 15 cubic feet capacity, there were three entries.

Xlnts Patents, Ltd., of 24, Livesey Street, Birmingham, was awarded a Silver Medal for a portable sterilizing plant fitted with a three-way cock between the boiler and steam chest to provide steam for external purposes. The water feed is automatic and works at a pressure of 3 lbs. The time taken to sterilise is 45 minutes. Time taken from cold to obtain 10 gallons of water at 180°F., 15 minutes. Oil consumption per hour—3 lbs.

Messrs. Aveling-Barford, Ltd., of Invieta Works, Grantham, were awarded a Bronze Medal for an oil-fired sterilizing plant with a 15 lbs. pressure cubic feet. The special features of this equipment are that it will burn fuel oil, also hot water is obtained by filling the boiler above the steaming level and drawing of hot water before the steaming commences. Evaporation, 45 lbs. of steam per hour. Oil consumption, 1.16 gallon per hour. Time to raise steam, 1 hour 11 minutes.

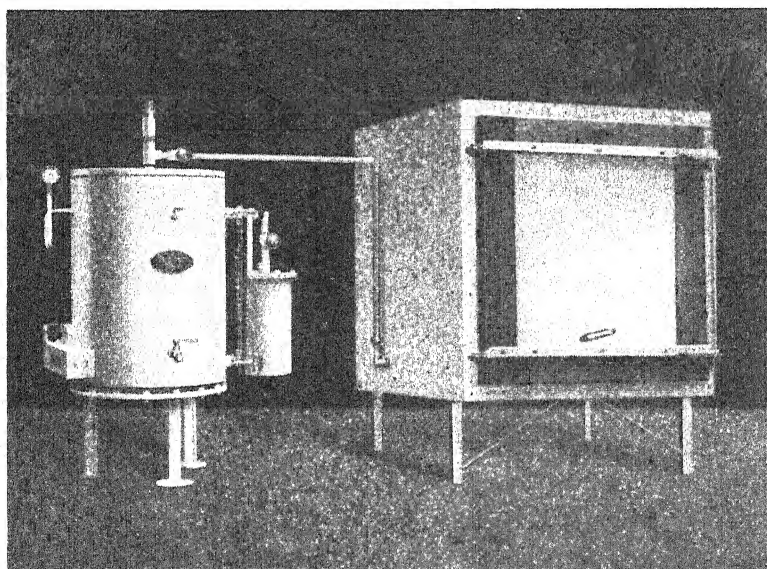


Oil-Fired Sterilizing Plant.

The construction is good, but the burner is a little difficult to start, but when started works without any further trouble. The boiler has to be filled with water through a filler funnel, and in consequence no water can be added whilst steaming—not an ideal condition. The addition of a hand-feed pump would be an improvement in this model.

In Class 150 for Electrically-Heated Outfits with chest of not less than 15 cubic feet capacity, there were three entries.

A Silver Medal was awarded to Messrs. Aveling-Barford, Ltd., of Invieta Works, Grantham, for an Electric Boiler of novel design, coupled with a steam chest. The boiler can be used for raising steam as well as for sterilizing or for providing a continual supply of hot water at a constant desired temperature thermostatically controlled. Time required for heating water 15 gallons from 60°F. to 180° F.—22 minutes. Evaporating rate—40 lbs. of steam per hour. Consumption of electricity, 15 k.w.



Electric Sterilizing Outfit.

hrs. per hour. Time to raise steam from cold—15 minutes. Time to raise loaded steam chest to 210° F.—11 minutes. Evaporating rate, 44–47 lbs. of steam per hour with a 15 k.w. hour limit if in perfect working order.

This outfit should prove very efficient and in every way satisfactory where the charge for electricity does not exceed 1d. per unit.

Messrs. J. W. Woolley & Co., Ltd., Clifton, Tamworth, were awarded a Bronze Medal for the Clifton Electric Sterilizing Outfit.

The steam is generated in the base of the steam chest, where a well is provided for this purpose fitted with two immersion type of electric heaters of 2 k.w. loading. Steam is generated in this small well and the water supply is automatically controlled with a ball valve.

A small quantity of hot water can be obtained in a very few minutes by flooding the bottom of the chest. Time taken to effect sterilization from cold—210° F. for 10 minutes—1 hour 10 minutes. Consumption of electricity, 4.2 k.w. hours. For sterilizing, this equipment gives very good results, but the construction is not calculated to stand rough usage.

POULTRY APPLIANCES.

By C. N. GOODE.

The Poultry Appliance department is a great attraction to poultry keepers of all classes. Those who count their stock in thousands and the small back yarder can at the Dairy Show find all their needs catered for. There is no doubt the British Dairy Farmers' Show is *The Show* of the year for Poultry Appliance makers.

When in conversation with one such maker, who has had a stand at the Show for many years, I was told that it was his *only* advertisement. He does not advertise or exhibit elsewhere and his trade has increased year by year; his staff has more than doubled and he has had to instal more machinery in order to cope with orders.

One great feature of this section is the marked development of the Mammoth incubator during the last decade. From the modest 150 to 200 egg machine of previous years the Mammoth has grown in size to take up to 20,000 eggs.

There is a saying of some wise man that there is "nothing new under the sun." Though Mammoth incubators are

new to the Western world the Mammoth incubator has been in use for generations in Egypt; these were built in the soil and of a size that a man could walk about in them. True, they had not the electric gadgets that controls the Mammoth of to-day, but they hatched eggs quite well. However, the Mammoths that are now made in the West have the advantage of being movable, and are now fitted with electric controls to ensure successful hatches.

Each year some improvement is introduced that helps towards good hatches, not only in numbers, but in producing healthy and vigorous chicks.

Class 151. New or Improved Inventions in Poultry Appliances Section.

There were 16 entries in this section, of varied character, that made quite an interesting assortment.

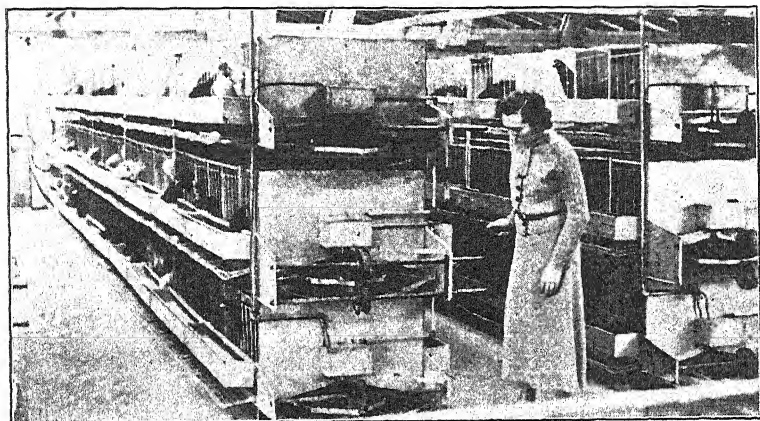
In this class a Silver Medal was awarded to the Papworth incubator.

This machine has several novel features, one being a continual supply of fresh air introduced at floor level and passing out through the roof, thus ensuring that air is not recirculated among the eggs. It has also an improved automatic system of supplying moisture. The water supply is controlled by a humidistat that shuts off the water supply when humidity has reached the right degree. The temperature is also automatically controlled so that it cannot rise above 101°F. The machine is neat and attractive in appearance.

A novel new exhibit was the Sterigas self-operating, low-temperature egg-storage plant. The medium utilised for storage—CO₂—is tasteless, harmless and a complete proof against the formation of mould. Increase in air space in the eggs is negligible after six months' storage. A test had been carried out and no difference could be observed between the eggs that had been stored and new laid eggs.

This exhibit was also awarded a Silver Medal.

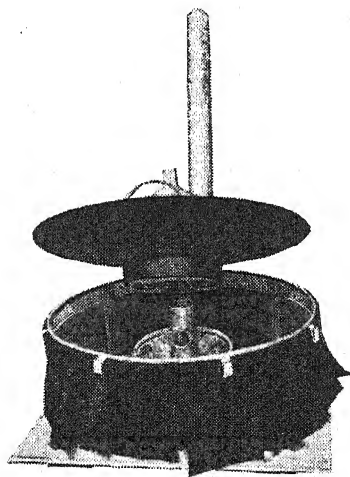
Battery laying cages have become quite a feature in this section during the last few years. The Curfew all-metal laying cage with automatic water supply and a patent mechanical cleaner was awarded a Bronze Medal. The cages were of sound construction, well-fitted and labour saving.



Curfew All-metal Laying Cage.

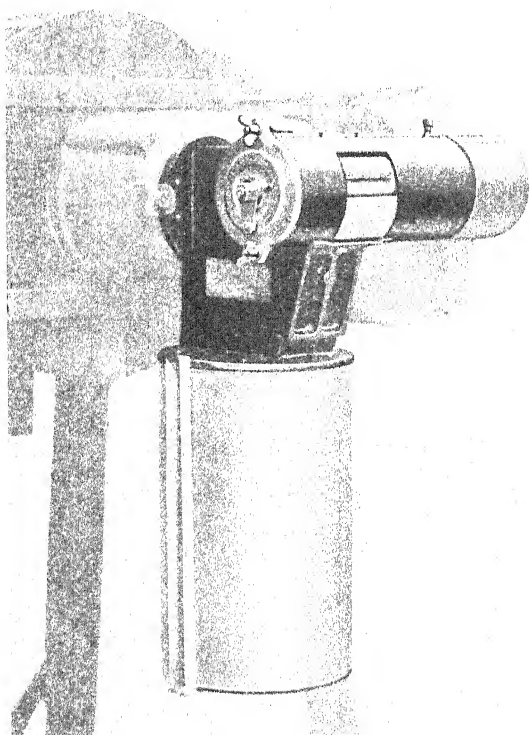
A Bronze Medal was awarded to the Hannaford "Pioneer" sanitary hover.

This hover has stood the test of time, having been on the market for some years and, with improvements, has reared many thousands of healthy chicks. The ventilation is good and there is no fear of the chicks being "gassed."



Hannaford "Pioneer" Sanitary Hover.

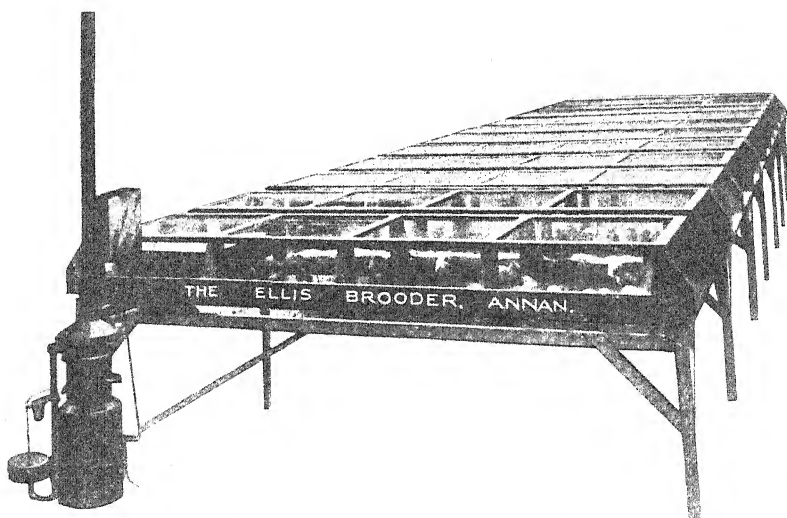
Comb-pluckers, Ltd., exhibited a stubbing and downing machine for poultry and ducks.



Stubbing and Downing Machine.

We saw this machine in action and it did its work well. It solves the problem of removing unsightly stubs from chickens which the feather plucking machine does not do. This exhibit was awarded a Bronze Medal.

A Bronze Medal was also awarded to the Ellis Mammoth Progressive Brooding System for rearing chickens on a large scale until they are ready as table birds, or to grow the pullets on for laying. We consider this system quite a good one. It is not complicated and is easily managed. It is worked with the "Ellis Patent Brooder."



Ellis Patent Mammoth Progressive Brooding Plant.

The Sandon-Nelco egg grading and testing machine received a Very Highly Commended Award. This is a very useful machine, at a moderate price, enabling poultry farmers to grade and test their own eggs.

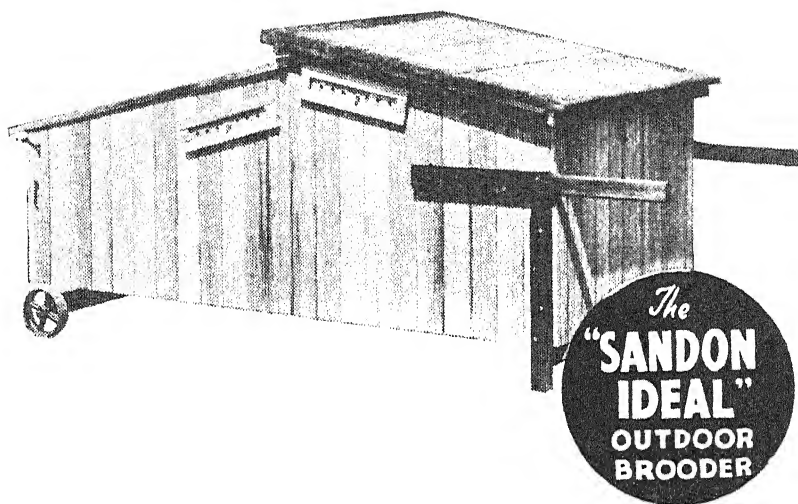
Very Highly Commended was awarded to the Visi Battery Cages and the Visi Brooder—both very useful appliances.

The Secura Incubator Co. exhibited a Patent Regulating Thermometer for automatically regulating the temperature in the incubator at 100 degrees. This is very important for successful hatching. Awarded Very Highly Commended.

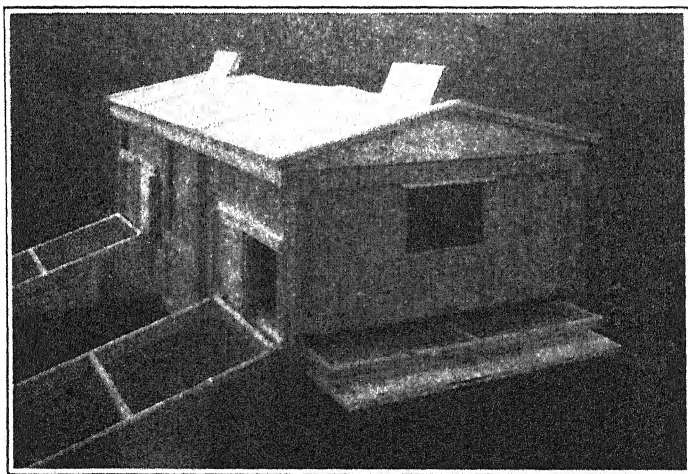
Class 153, for Outdoor Brooders, suitable for Farm work, brought three entries.

The First Prize and Silver Medal was awarded to the "Sandon Ideal Outdoor Brooder."

This Brooder meets the requirements for which this class was instituted, viz., a brooder suitable for ordinary farm work and small poultry keepers. It is moderate in price, simple in construction, and easily moved about. It has two compartments, one being heated with a hurricane lamp, the other acts as a nursery and for feeding purposes. The partition between the compartments can be moved as the chicks grow older. Attached is a movable 6-foot wire run, which can be removed to give the chicks free range when they are old enough.



The Second Prize and Bronze Medal went to the "Master Brooder," quite a useful well-built brooder.



Sawyer Outdoor Brooder.

The Reserve was awarded to the "Sawyer" brooder, which was also a well-built machine.

REPORT OF THE MILKING TRIALS, DAIRY SHOW, 1937.

BY JAMES MACKINTOSH, O.B.E., N.D.A., N.D.D.

The Milking Trials at the 1937 Show were carried out on the usual lines.

The number of entries showed a slight decrease from that of recent years, but exceeded those of 1933 and 1932. Unfortunately an outbreak of foot and mouth disease in Surrey caused the removal of ten cows and heifers from the Show before the milking trials were completed. As these animals did not complete the 48 hours milking required for the Milking Trials, they have not been included in the class results given later in this report.

In spite of the slight decrease in entries the standard of performance was well up to recent years. In no less than seven classes a new record for the class average of points gained in the Milking Trials was set up, and in six classes a new individual record was attained (see page 161).

To commemorate the Coronation of His Gracious Majesty King George VI, the Council of the Association decided to increase the prizes for this year's Show to the following amounts:—First prize, £10; second, £6; third, £4; fourth, £2; fifth, £1, and to give a sixth prize of £1 in each class with 12 to 19 entries and a seventh prize of £1 in each class with 20 or more entries.

As in recent years animals from herds licensed by local authorities to produce "Tuberculin Tested Milk" under the Milk (Special Designations) Order, 1936, and animals from herds on the Ministry of Agriculture's Register of Attested Herds were stalled at one end of the Gilbey Hall. In this report animals from Tuberculin Tested herds are indicated by one asterisk following the number of the animal in the catalogue, and animals from Attested herds by two asterisks.

Owing to insufficient entries the classes for Devons, Welsh Blacks, Kerries and Dexters were cancelled.

The Method of Awarding Points was similar to that of recent years, and is set out below :—

One point for every 10 days since calving, deducting the first 40 days, with a maximum of 12 points.

One point for every pound of milk, taking the average yield of the two successive days.

Twenty points for every pound of fat produced.

Four points for every pound of non-fatty solids produced.

Deductions are made of 10 points for each time the fat is below 3 per cent., and 10 points for each time the content of non-fatty solids falls below 8·5 per cent.

Disqualification takes place in the case of any animal whose milk from any one milking falls below 3 per cent. of fat and for the same milking also falls below 8·5 per cent. of solids other than fat. Such disqualification renders the animal ineligible for any award or trophy in any section of the Show.

Ineligible for Award.—Those animals whose milk at three successive milkings falls below 3 per cent. of fat or below 8·5 per cent. of non-fatty solids are not eligible for any awards or trophies where the Milking Trial points are taken into account. This condition was inaugurated in 1936 to overcome the anomaly of an animal being awarded a prize whose milk was consistently deficient in either fat or non-fatty solids.

Number of Entries.—These totalled 342 divided amongst 25 classes. Last year there were 393 entries in 28 classes.

Number of Competitors.—The number of animals initially present for competition was 179, or 52·3 per cent. of the entries. This percentage is appreciably lower than those of recent years, which were as follows:—1936, 58·2 per cent.; 1935, 63·3 per cent.; 1934, 63·8 per cent.; 1933, 62·1 per cent.; 1932, 62·2 per cent.; 1931, 60·7 per cent.; 1930, 62·7 per cent.; 1929, 58·4 per cent. and 1928, 58·5 per cent. Owing to the removal of ten animals because of foot and mouth disease regulations the number of animals actually competing was reduced to 169.

Highest Points Gained in the Milking Trials.—The highest total this year was 193·85 points, gained by the British Friesian cow, "Lavenham Unique 8th" (No. 102), owned by the Strutt & Parker (Farms), Ltd.

Highest Yield of Milk.—The highest average yield of milk for the two days of the trials—92·95 lb.—was also given by "Lavenham Unique 8th."

Disqualifications.—Only one animal—a British Friesian cow—was disqualified from any award because at one and the same milking her milk contained less than 3·0 per cent. of fat and less than 8·5 of solids-not-fat. This is a marked improvement on the last two years when five animals were disqualified each year.

Ineligibility for any Award in the Milking Trials.—Only one animal—an Ayrshire heifer—failed owing to her milk containing less than 8·5 solids-not-fat at three successive milkings.

As in previous years the points earned by the disqualified and ineligible animals are included in the calculations for the averages of their classes in Tables I, II, III, V and VI.

Standard Points.—For some years past it has been evident that owing to the improvement in the performance of some of the breeds, the standard points for a number of classes were due for revision, and the Council of the British Dairy Farmers' Association have carried out this revision so that the class standard points are now as follows:—

<i>Breed.</i>			<i>Cows over 5 years old.</i>	<i>Cows 3-5 years.</i>	<i>Heifers.</i>
Pedigree Dairy	Short-horn	do.	115 (100)	95·8 (83·3)	76·7 (66·7)
Non-Pedigree	do.	do.	115 (110)	—	76·7 (73·3)
Lincolnshire Red	...	...	100 (100)	—	66·7 (66·7)
British Friesian	...	...	120 (110)	100 (91·7)	80·0 (73·3)
South Devon	...	...	110 (100)	91·7 (83·3)	73·3 (66·7)
Devon	...	...	85 (90)	—	—
Red Poll	...	...	100 (100)	83·3 (82·3)	66·7 (66·7)
Welsh Black	...	...	85 (90)	—	—
Ayrshire	...	...	115 (100)	95·8 (83·3)	76·7 (66·7)
Guernsey	...	...	100 (85)	83·3 (70·8)	66·7 (56·7)
Jersey	...	...	95 (90)	79·2 (75·0)	63·3 (60·0)
Kerry	...	...	80 (80)	—	53·3 (53·3)
Dexter	...	...	65 (70)	—	43·3 (46·7)

The figures in brackets are the standards adopted up to and including 1935.

Burroughs' Adding Machines.—The Milking Trial Judges and staff were again assisted in the calculations by Messrs. Burrough's Adding Machines, Ltd., who kindly loaned two electric calculating machines and arranged for two highly skilled operators to attend the Show to undertake the necessary calculations. This assistance enabled the judges to complete the class awards in the Milking Trials so that they were available soon after the opening of the Show on Tuesday. When it is realised that the final weighing of the milk is not completed until late on Monday night it seems difficult to imagine how the results can be arrived at sooner.

NOTES ON CLASSES 1 TO 31.

Class 1. Pedigree Dairy Shorthorn Cow over 5 years old.—Entries 19; present 11. The standard of performance was below that of the last three years, but only one animal failed to attain the new class standard of 115 points. Competition for the first place was very close—less than one point divided the first three cows. The first prize was awarded to “Fothering Foggathorpe 2nd” (No. 1), the property of Mr. C. J. Allday, with 146.58 points. The second prize was obtained by “Holmescales Furbelow 3rd” (No. 7), owned by King’s College Farms, with 146.19 points. “Oxford Rosette” (No. 13), the property of Mr. J. Crowe, was third with 146.12 points. The fourth prize was obtained by Mr. M. Walker’s cow, “Hothersall Dainty Darlington 3rd” (No. 4), with 137.98 points. Fifth and sixth prizes were also awarded.

Class 2. Pedigree Dairy Shorthorn Cow over 3 and under 5 years old.—Entries 18; present 13. This class continues to be an attractive feature and a good standard was attained. Two cows failed to attain the class standard of 95.8 points. The first prize was gained by “Thornby Barrington Duchess 9th” (No. 27), owned by Capt. Arnold S. Wills, with 149.51 points. The second, third and fourth prizes were also gained by totals of over 140 points, credited respectively to “Copsale Wild Eyes 16th” (No. 28), owned by Sir Martin J. Melvin, with 146.37 points; “Greattew Hilda 8th” (No. 20), owned by Mr. P. R. L. Savill, with 144.25 points, and “Dainty Princess 12th” (No. 29), also owned by Sir Martin Melvin, with 140.70 points. Fifth and sixth prizes were also awarded.

The Desborough Cup, awarded to the cows in Classes 1 and 2 gaining most points in the Milking Trials, was won by Capt. Arnold S. Wills’ “Thornby Barrington Duchess 9th” (No. 27) with 149.51 points. The reserve was Mr. C. J. Allday’s “Fothering Foggathorpe 2nd” (No. 1) with 146.58 points.

Class 3. Pedigree Dairy Shorthorn Heifer.—Entries 24; present 8. The proportion of entries forward for competition in this class was disappointing. The performance generally was up to the average; two animals failed to attain the class standard of 76.7 points. The first prize was easily won by “Copsale Butterfly 2nd” (No. 51), the property of Sir Martin J. Melvin, with 115.27 points. The second prize was awarded to Mr. John Day’s “Huxham Duchess Rose 9th” (No. 61) with 104.32 points. Mr. R. Tustain’s “Greattew Sophie 5th” (No. 44) was third with 97.40 points, and “Pearl’s Gift” (No. 38), owned by King’s College Farms, was fourth with 95.89 points. Fifth and sixth prizes were also awarded in this class.

Class 4. Non-Pedigree Dairy Shorthorn Cow.—Entries 13; present 3. The small proportion of entries present weakened the competition in this class, also, unfortunately, one animal was removed from the Show under the foot and mouth disease regulations. The first prize was awarded to "Mary" (No. 64), owned by King's College Farms, with 151.51 points. The second prize winner, "Cantab Flora 6th" (No. 63), from the University Farm, Cambridge, followed closely with 150.61 points. "Pretty Lass" (No. 72), owned by W. Clarkson & Sons, gained third prize with 131.12 points.

Class 5. Non-Pedigree Dairy Shorthorn Heifer.—Entries 4; present 4. In this small class the first prize was awarded to Mr. H. Brazier's "Duchess" (No. 76) with 102.62 points, Mr. W. J. Wheeler's "Mathers Bella 10th" (No. 72) was second with 97.78 points, and the third prize was gained for Mr. Brazier by "Milkmaid" (No. 77) with 79.64 points.

The Melvin Perpetual Challenge Cup is awarded to the owner of the Dairy Shorthorn Cow or Heifer entered in Coates' Herd Book or in the Grading Register gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests, the points to be calculated as for the Spencer Cup (see page 159), and the animal must have been bred by its owner. This cup was won by Mr. Allday's "Fothering Foggathorpe 2nd" (No. 1), which occupied the reserve position last year. The reserve this year was Capt. Arnold S. Wills' "Thornby Barrington Duchess 9th" (No. 27).

The Extra Prize of £25 offered by the Shorthorn Society for the Dairy Shorthorn Cow or Heifer, pedigree or entered in the Shorthorn Society's Grading Register, gaining most points by Inspection, in the Milking Trials and the Butter Tests as calculated for the Spencer Cup, was also won by Mr. Allday's "Fothering Foggathorpe 2nd" (No. 1) and Capt. Wills' "Thornby Barrington Duchess 9th" (No. 27) was reserve.

The Extra Prize of £10 offered by the Shorthorn Society for the cow exhibited in Class 4, and entered or accepted for entry in the Grading Registers of the Shorthorn Society, gaining most points on Inspection and in the Milking Trials (according to the scale set out in the Show Catalogue, page 78), was won by "Mary" (No. 64), owned by King's College Farms, and the reserve was W. Clarkson & Sons' "Pretty Lass" (No. 72).

Class 6. Lincolnshire Red Shorthorn Cow.—Entries 7; present 5. The performance of the cows forward in this class was up to a good level; all five exceeded the class standard of 100 points and the competition for the first place was very keen—less than one point separated the first three animals. The first

prize was gained by "Histon Fanny 8th" (No. 82*), owned by Messrs. Chivers & Sons, with 142.89 points. The second prize was secured by "Saltfleet Evelyn 2nd" (No. 79), the property of King's College Farms, with 142.62 points, and Messrs. John Evens & Son's "Burton Venetia 2nd" (No. 83) gained third prize with 142.22 points. This cow obtained second prize in last year's Milking Trials.

Additional Prizes of £6, £4 and £1 10s. offered by the Lincolnshire Red Shorthorn Society for cows in Class 6 in the Milking Trials were awarded in the same order as the class prizes shown above.

Class 7. Lincolnshire Red Shorthorn Heifer.—Entries 8; present 4. The standard of performance in this class was well above the average, and all four animals exceeded the class standard of 66.7 points. The first prize was awarded to "Burton Venus 17th" (No. 89), owned by Messrs. John Evens & Son, with 126.45 points. This total sets up a new record for this class. The same exhibitor's "Burton Ruby Spot 35th" (No. 90) gained second place with 109.54 points, and "Bendish Charm 24th" (No. 86*), owned by Mr. F. Russell Wood, gained third prize with 97.22 points.

Class 8. British Friesian Cow over 5 years old.—Entries 30; present 13. The number of animals competing in this class was greater than in recent years and an exceptionally high level of performance was attained. One animal was disqualified for poor quality of milk, but all others exceeded the class standard of 120 points, and a new record was set up for the class average, namely, 169.60 points. This average is 6.5 points above the previous highest average. The first prize was awarded to "Lavenham Unique 8th" (No. 102), owned by the Strutt & Parker (Farms), Ltd., with 193.85 points. Another cow from the same exhibitors, "Lavenham Trifolium 6th" (No. 101*), was second with 190.97 points. The third prize was gained by "Hurdlesgrove Pel Betty 2nd" (No. 114), the property of Mr. T. H. Merriek, with 187.21 points. The fourth prize went to "Winchester Stella" (No. 109), owned by Mr. W. Twentyman, with 184.58 points. Fifth and sixth prizes were also awarded to animals which gained 183.00 points and 181.71 points respectively, and it is worthy of note that both these totals are higher than that which obtained second prize in the same class last year. The first prize winner, "Lavenham Unique 8th," also was the winner of the Barham Challenge Cup and the Shirley Challenge Cup.

Additional Prizes of £8, £5 and £2 offered by the British Friesian Cattle Society for the Milking Trials in Class 8 were awarded respectively to the first, second and third prize animals mentioned above.

Class 9. British Friesian Cow over 3 and under 5 years old.—Entries 15; present 7. The number of competitors in this class was less than usual. Those present attained a remarkably high level as a class; all exceeded the class standard of 100 points and created a new record for the class with an average of 164.31 points. This average exceeds the previous best, made in 1931, by 2.31 points. The first prize was awarded to "Oakham Dainty Gem" (No. 127), owned by Mr. Cecil Ball, with 193.07 points. This cow is a daughter of "Oakham Dainty," winner of the Supreme Individual Championship Challenge Trophy and other cups in 1932, and the total of 193.07 points is a new individual record for this class. The second prize was gained by "Middlewich Sylvia" (No. 137), exhibited by Mr. Thomas Brown, with 182.52 points, and the third prize went to "Herrington Maureen" (No. 132), owned by Mr. A. Weightman, with 169.28 points. Fourth, fifth and sixth prizes were also awarded. "Oakham Dainty Gem" (No. 127) was also the winner of the Spencer Cup, and reserve for the Supreme Individual Championship Challenge Trophy, the Barham Challenge Cup and the Shirley Challenge Cup.

Additional Prizes of £8, £5 and £2, offered by the British Friesian Cattle Society for the Milking Trials in Class 9, were awarded to the animals gaining first, second and third prize respectively, as shown above.

Class 10. British Friesian Heifer.—Entries 16; present 4. Six animals were originally present in this class, but two unfortunately were removed from the Show owing to foot and mouth disease regulations. All four heifers easily attained the class standard of 80 points and a new class average was attained—118.8 points compared with the previous best of 112.9 in 1931. The first prize was awarded to "Oakham Freda" (No. 143), owned by Mr. Cecil Ball, with 130.46 points. The second prize went to "Fintloch Jemima" (No. 153*), the property of Messrs. Hodge Bros., with 124.03 points, and the third prize was secured by "Barwyke Butterfly" (No. 141), owned by W. Curtis & Son, with 113.89 points. A fourth prize was also awarded in this class.

One Hundred Pounds presented by the British Friesian Cattle Society, to be awarded to the winner of the Spencer Challenge Cup, provided that the winning animal is a registered British Friesian and is exhibited by a member of the British Friesian Cattle Society, was won by Mr. Cecil Ball with "Oakham Dainty Gem" (No. 127).

Class 11. South Devon Cow over 5 years old.—Entries 4; present 2. The entries in this class were disappointing and the performance of the two competitors was on the average of past years. The first prize was won by "Diptford Downs Milkmaid

13th" (No. 155), owned by Mr. W. Hunt, with 133.83 points, and the second prize went to "Winsor Alma" (No. 158), the property of Mr. J. T. Dennis, with 132.05 points.

Class 12. South Devon Cow over 3 and under 5 years.—Entries 4; present 2. The first prize in this class was awarded to "Westerland Anne" (No. 160), owned by Mr. V. Bunday, with 131.81 points, and the second prize to "Winsor Alma 2nd" (No. 161), the property of Mr. J. T. Dennis.

A *Silver Challenge Cup*, presented by the South Devon Herd Book Society, to be awarded to the owner of the pedigree South Devon Cow gaining the greatest number of points on Inspection (as under the Spencer Cup) in the Milking Trials and Butter Tests, was won by "Diptford Downs Milkmaid 13th" (No. 155), owned by Mr. W. Hunt, and the reserve was Mr. V. Bunday's "Westerland Anne" (No. 160).

Class 13. South Devon Heifer.—Entries 4; present 3. The entries in this class were normal in number and performance. The first prize was awarded to "Diptford Downs Milkmaid 28th" (No. 163), the property of Mr. W. Hunt, with 95.59 points. The second prize was gained by "Sandwell Cowslip" (No. 164), the property of Miss Jervoise Smith, with 86.23 points, and Mr. G. Wills' "Rydon Milkmaid 11th" (No. 165) was third with 80.22 points.

Class 14. Devon Cow.—No entry.

Class 15. Red Poll Cow over 5 years old.—Entries 9; present 5. The entries and the actual number of competitors in this class showed a regrettable decrease in numbers. The standard of performance was, however, well above the average and all animals attained the class standard of 100 points. The first prize was gained by "Kirton Sundial" (No. 169), owned by Mr. Stuart Paul, with the record individual score in this class of 185.6 points. This cow was first in the young cow class (Class 16) last year with a record total for that class of 187.23 points. The second prize was awarded to "Morston Girl 14th" (No. 168) with the excellent total of 174.48 points. This cow is the property of Col. H. E. Hambro. The third prize went to another of Mr. Stuart Paul's entries, "Kirton Duplex" (No. 170), with 135.86 points. Fourth and fifth prizes were also awarded in this class.

Class 16. Red Poll Cow over 3 years and under 5 years.—Entries 9; present 4. The number of entries and the standard of performance in the class was below normal. Only two of the competitors attained the class standard of 83.3 points. The first and second prizes were won by two cows owned by Mr. Stuart Paul; "Kirton Fantasy" (No. 180) was first with 114.34 points, and "Kirton Lilyrose" (No. 181) was second with 109.24 points.

Class 17. Red Poll Heifer.—Entries 7; present 4. One animal out of the four present failed to attain the class standard of 66·7 points, and the average for the class was appreciably below that of recent years. The first prize was awarded to "Mistley Peaceful" (No. 190), owned by Brooks (Mistley), Ltd., with 92·18 points. The second prize went to "Coldham Nelly" (No. 185), shown by Col. H. E. Hambro, with 78·22 points, and the third to "Kirton Faithless" (No. 187), shown by Mr. Stuart Paul, with 71·61 points.

The Thornton Cup, awarded to the owner of the Red Poll Cow or Heifer gaining the greatest number of points on Inspection (as for the Spencer Cup, see page 159) in the Milking Trials and the Butter Tests, was won by Mr. Stuart Paul with "Kirton Sundial" (No. 169). This cow was reserve for the same trophy last year.

The Red Poll Cattle Society offered £40 to be divided equally as "dual-purpose" bonuses between those animals in Classes 15, 16 and 17 which, being prize winners on Inspection, also obtain prizes in the Milking Trials. No animal to receive more than £10. The method of awarding these bonuses was revised for the 1937 Show and, according to the new conditions, ten animals were qualified to obtain an equal share of the £40.

The animals obtaining prizes by Inspection and also in the Milking Trials were:—

Class 15.

				<i>Owned by</i>
No. 168	"Morston Girl 14th"	...	...	Col. H. E. Hambro.
" 169	"Kirton Sundial"	...	...	Mr. Stuart Paul.
" 170	"Kirton Duplex"	...	...	Mr. Stuart Paul.
" 172	"Meddler Sparkle"	...	...	Mr. Stuart Paul.
" 173	"Latimer Primrose 3rd"	...	...	Mrs. H. D. Lewis.

Class 16.

No. 180	"Kirton Fantasy"	...	...	Mr. Stuart Paul.
" 181	"Kirton Lilyrose"	...	...	Mr. Stuart Paul.

Class 17.

No. 185	"Coldham Nelly"	...	...	Col. H. E. Hambro.
" 187	"Kirton Faithless"	...	...	Mr. Stuart Paul.
" 190	"Mistley Peaceful"	...	...	Brooks (Mistley), Ltd.

Had there been a larger number of animals forward for competition in each class it is most probable that the number qualifying would have been less and the share obtainable by each would have been greater.

Class 18. Welsh Black Cow.—Class cancelled.

Class 19. Ayrshire Cow over 5 years old.—Entries 20; present 10. The entries forward in this class attained a very

high level of performance. All exceeded the class standard of 115 points, and the average for the class was 155.47 points, but no new individual record was created. The first prize was awarded to "Barr Milkmaid" (No. 210**), owned by Graham Bros., with 174.23 points. The second prize was gained by "Relief Lady Grace 2nd" (No. 206**), owned by Mr. R. Barbour, with 168.06 points. The third prize went to "Compton Rosetta" (No. 194**), the property of Mr. L. Langmead, with 163.76 points. The fourth prize was secured by "Garston Orange Blossom" (No. 203), owned by Mr. D. Mackay, with 160.57 points. It is interesting to note that all the above-mentioned cows came from Ayrshire herds in England. Fifth, sixth and seventh prizes were also awarded in this class.

Extra Prizes of £4, £3, £2, £2, and £1 were offered by the Ayrshire Cattle Herd Book Society in Class 19 for competition in the Milking Trials. The respective winners were Nos. 210**, 206**, 194**, 203 and 204**, "Elmhurst Khiva," owned by Mr. A. Cochrane.

Class 20. Ayrshire Cow over 3 years and under 5 years old.—Entries 26; present 12. This is the third year in which this class has been provided, and on this occasion it proved to be one of the best classes in the Show. All animals competing easily exceeded the class standard of 95.8 points; a new class average record was attained with 154.48 points—an average which would have done credit to the older cow class—and a new individual record for the class was set up by the first prize winner. This prize was awarded to "Barboigh Lillias 28th" (No. 213**), owned by Mr. Alex Watson, with 184.56 points. The second prize was secured by "Kilmaurs Mains Mermaid" (No. 215**), owned by Mr. David Smith, with 178.71 points. The third prize went to "Kirkton Diana" (No. 235), owned by Mr. J. A. Reunie, with 176.99 points. The fourth prize was secured by "Nether Craig Milk Girl" (No. 224**), the property of Mr. A. Cochrane. In this class the first four prizes were secured by animals from herds in Scotland. Fifth, sixth and seventh prizes were also awarded.

The first prize winner in this class ultimately was the winner of the Supreme Individual Championship Challenge Trophy (see page 156) and was reserve for the Spencer Cup. The second prize winner was also successful in winning the Breeders' Milk Challenge Trophy (see page 159) and was reserve for the National Milk Challenge Cup.

Class 21. Ayrshire Heifer.—Entries 32; present 15. This was the largest class in the Show and was also one of high merit. Twelve animals easily exceeded the class standard of 76.7 points; one became ineligible for any award in which the Milking Trials

are concerned by reason of her milk containing less than 8·5 per cent. solids-not-fat at three successive milkings. A new record for the average points for the class was set up, viz., 113·29 points, which exceeded the previous record by 4·6 points. A new individual record was also attained by the first prize winner. This heifer was "Sheepcotes Relish" (No. 252), owned by Mr. John Bone, with a total of 148·33 points. This heifer's milk yield averaged 66·65 lb. for the two days of the trial. The second prize was gained by "Nether Craig Silk" (No. 251**), owned by Mr. A. Cochrane, with 132·03 points. The third prize was secured by "Isles Fiona" (No. 259), exhibited by Mr. D. Clark, with 125·99 points, and the fourth prize went to "Barboigh Liliass 30th" (No. 241**), owned by Mr. Alex Watson, with 125·37 points. Fifth, sixth and seventh prizes were also awarded in this class.

The Rowallan Cup is awarded to the owner of the Ayrshire Cow or Heifer, registered or eligible for registration with a number in the Ayrshire Cattle Herd Book, gaining the greatest number of points on Inspection, in the Milking Trials and in the Butter Tests. Points for Inspection shall be awarded to the first six animals in order of merit, as follows:—100, 90, 80, 70, 65, 60. In the case of heifers an additional 15 per cent. of the points scored in the Milking Trials and Butter Tests will be added to their total. This Cup was won this year by Mr. Alex Watson with "Barboigh Liliass 28th" (No. 213**), and the reserve was Mr. Hugh Wylie with "Bruchag Princess" (No. 230**).

Extra Prizes of £10 and £5 were offered by the English Committee of the Ayrshire Cattle Herd Book Society for the owner of an Ayrshire herd in England or Wales whose cow or heifer gains the greatest number of points under the conditions of the Rowallan Challenge Cup. These prizes were respectively won this year by Mr. Hugh Wylie with "Bruchag Princess" (No. 230**), and by Mr. D. Mackay with "Garston Orange Blossom" (No. 203).

Class 22. Guernsey Cow over 5 years old—Entries 10; present 3. Five of the ten animals entered were present at the beginning of the trials, but two were removed because of the foot and mouth disease regulations and did not complete the trials. The three cows which completed the trials did well and set up a new class average. The first prize was awarded to "Broad Oak Madge" (No. 275*), owned by Mr. S. R. Hicks, with 140·83 points. Mr. A. T. Loyd's "Lockinge Lady Belle 6th" (No. 271) was second with 128·97 points, and Capt. H. J. Pilbrow's "Vera's Pride of the Queen's" (No. 273*) was an exceedingly close third with 128·93 points.

Class 23. Guernsey Cow under 5 years old which has produced two or more calves.—Entries 5; present 2. The small entry was depleted by one animal removed under the foot and mouth disease regulations. Of the two remaining, one failed to attain the class standard of 83.3 points. The first prize was awarded to "Lassie Darling of Mapleton" (No. 281*), the property of Capt. H. J. Pilbrow, with 111.12 points.

Class 24. Guernsey Heifer which has produced her first and only calf at or under the age of 2 years and 9 months.—Entries 7; present 5. Six out of the seven entries were initially present, but one came under the foot and mouth disease regulations. Of the remaining five, two failed to attain the class standard of 66.7 points. The first prize winner was "Wendy of Les Blieqs (No. 289*)", owned by Mr. S. R. Hicks, with 102.56 points. The second prize was awarded to "Bealings Wild Rose 2nd" (No. 285), the property of Mr. J. Brooke, with 95.61 points, and the third prize went to "Floss of Payhay" (No. 290), owned by Mr. H. A. Y. Dyson, with 90.31 points.

The Stagenhoe Challenge Cup, awarded to the owner of the Guernsey Cow or Heifer gaining the greatest number of points by Inspection (as for the Spencer Cup) in the Milking Trials and in the Butter Tests, was won by Mr. S. R. Hicks with "Broad Oak Madge" (No. 275*), and Mr. A. T. Loyd was reserve with "Lockinge Lady Belle 6th" (No. 271).

An extra Prize of £10 offered by the English Guernsey Cattle Society for the Guernsey Cow or Heifer gaining the highest points in the Milking Trials and Butter Tests was also won by Mr. S. R. Hicks with "Broad Oak Madge" (No. 275*).

Class 25. Jersey Cow over 5 years old.—Entries 16; present 10. This class also suffered by the removal of two cows under the foot and mouth disease regulations, but nevertheless an excellent level of performance was attained and a new class average record of points was set up. The ten cows competing averaged 128.07 points as against the record set up last year of 125.8 points. The first prize was awarded to "Pearcelands Eileen 10th" (No. 306), the property of Mr. J. W. McCallum, with 157.85 points. The second prize was won by "Foxbury Valentine 2nd" (No. 301**), owned by Sir J. B. Lloyd, with 139.03 points. The third prize winner "Wolvers Jenny" (No. 296), owned by Mr. W. E. Press, followed close behind with 138.23 points. The fourth prize was secured by "Wotton Bella Donna" (No. 298), owned by Mr. M. F. North, with 127.54 points. Fifth and sixth prizes were also awarded in this class.

Class 26. Jersey Cow under 5 years old which has produced 2 or more calves.—Entries 25; present 13. In this class one

animal initially present had to leave the Show because of the foot and mouth disease regulations. This class attained a high level of production and all 13 competitors exceeded the class standard of 79.2 points. The first prize was awarded to "Conyboro Premature 6th" (No. 314), the property of Mr. M. F. North, with 142.16 points. This total is a new individual record for this class. The second prize was gained by "Mermaid 2nd" (No. 331**), owned by the Ladies Constance Ryder and Audrey Anson, with 135.95 points. The third prize went to Mrs. H. J. Pitman's "Scarletts Aquamarine" (No. 316) with 130.96 points, and the fourth prize to the Ovaltine Dairy Farm's "Ovaltine Orchis" (No. 309) with 116.13 points. Fifth, sixth and seventh prizes were also awarded in this class. The third prize winner, "Scarletts Aquamarine" (No. 316), gained the National Milk Challenge Cup (see page 160) for Mrs. Pitman, and the second prize winner, "Mermaid 2nd" (No. 331**), was reserve for the Breeders' Milk Challenge Trophy.

Class 27. Jersey Heifer which has produced her first and only calf at or under 2½ years old.—Entries 10; present 7. This class had fewer entries than usual. All heifers but one exceeded the class standard of 63.3 points and the creditable class average of 87.20 points was attained. The first prize was awarded to "Loxwood Estellair" (No. 337), the property of Mr. M. F. North, with 120.6 points. This total is an individual record for this class, exceeding the previous best of 119.5 points attained in 1931. The second prize was won by "Samares Diana's Princess 3rd" (No. 340*), owned by Mr. J. W. McCallum, with 95.54 points. The third prize went to "Standard's Simple Maid" (No. 341), owned by Mrs. Henry Hawkins, with 91.06 points, and the fourth prize to Mr. W. E. Press's "Wolvers Gay Girl" (No. 336) with 87.78 points. A fifth prize was also awarded in this class.

The Blythswood Production Challenge Cup is awarded to the owner of the Jersey Cow or Heifer gaining the greatest number of points in the Milking Trials and the Butter Tests, provided the animal has been bred in Great Britain or Ireland.

The winner this year was also the winner last year—Mr. J. W. McCallum's "Pearcelands Eileen 10th" (No. 306) with 219.20 points (compared with 198.67 points in 1936). The reserve was Mr. W. E. Press's "Wolvers Jenny" (No. 296) with 215.98 points.

The Jersey Perpetual Production Trophy is a new trophy made available for the first time this year by Dr. H. and Miss Corner, and is awarded to the Jersey Cow or Heifer gaining the greatest number of points in the Milking Trials and the Butter Tests whose milk contains not less than 4 per cent. butter fat on the day's yield.

Here also Mr. McCallum's cow was the winner, and Mr. Press's reserve.

The Loxwood Jubilee Challenge Cup is awarded to the owner of the Jersey Cow or Heifer obtaining the highest number of points for Milk, Butter, Lactation and Inspection. Points are calculated as follows:—1 for every pound of milk, taking the average of two days' yield; 1 for every ounce of butter; 20 for a first prize by Inspection; 16 for second; 12 for third; 8 for fourth; 5 for fifth and 3 for sixth; points for lactation as in the milking trials, and the average percentage of butter fat to be not less than 4.5.

By this different method of making the award, the same two cows come to the front. Mr. McCallum's "Pearceclands Eileen 10th" (No. 306) was the winner with 119.10 points, and Mr. Press's "Wolvers Jenny" (No. 296) was reserve with 116.30 points.

Class 28. Kerry Cow. No entry.

Class 29. Kerry Heifer. No entry.

Class 30. Dexter Cow. Class cancelled.

Class 31. Dexter Heifer. Class cancelled.

NOTES ON CLASSES 32 TO 39.

The above classes are for the progeny of bulls and the awards are made solely on the basis of the performance of two cows or heifers, the progeny of each bull.*

Each cow or heifer to be eligible to compete must attain the standard of the class in which she is exhibited, and the awards are made on the total points gained above the class standard of each cow or heifer.

Class 32. Progeny of Dairy Shorthorn Bull.—Entries 6; present 2. Of the two pairs of animals present in the Show, the members of only one pair complied with the conditions and thereby earned the first prize. These were the daughters of "Thornby Prettyman 2nd" (247559), namely "Thornby Darling Duchess 7th" (No. 26), and "Thornby Barrington Duchess 9th" (No. 27). These animals were exhibited by Capt. Arnold S. Wills, who also bred their sire, and gained 78.99 points. The method of calculation is illustrated by the results of Class 34 below.

Class 33. Progeny of Lincolnshire Red Shorthorn Bull.—Entries 3; present 2. The first prize was gained by the progeny of "Bendish Dairy King" (23463), bred by Mr. F. Russell Wood.

The two daughters were "Histon Fanny 8th" (No. 82*) and "Histon Paragon 4th" (No. 87*), exhibited by Messrs. Chivers & Sons, Ltd., and the points gained were 59.52. The second prize went to the progeny of "Bargate Luck" (21016), bred by Mr. C. C. Mort. The daughters were "Bendish Pansy 29th" (No. 80) and "Bendish Charm 24th" (No. 86*), exhibited by Mr. F. Russell Wood, and totalling 48.36 points.

Class 34. Progeny of British Friesian Bull.—Entries 13; present 5. In spite of the number of pairs which were not fully represented at the Show, there was real competition in this class. One animal in one pair present did not comply with the conditions. The details for the others are set out in the following table, which also illustrates the method of calculation of points:—

Bull.	Progeny and Exhibitor.	Catalogue No.	Class	Milking Trial Points.	Class Standard Points	Points above Class Standard.	Total.	Award.
Lavenham Laddie (17719) Bred by Strutt & Parker (Farms) Ltd.	Lavenham Trifolium 6th	101*	8	190.97	120	70.97	144.82	1st
	Lavenham Unique 8th Strutt & Parker (Farms) Ltd.	102	8	193.85	120	73.85		
Hamels Janson (32839) Bred by E. Furness	Winchester Stella	109	8	184.58	120	64.58	104.44	2nd
	Winchester Beatrice W. Twentyman	110	8	159.86	120	39.86		
Creskeld Pel Knol P.I. (25343) Bred by B. Parkinson	Hurdlesgrove Pel Julia	112	8	128.45	120	8.45	75.66	3rd.
	Hurdlesgrove Pel Betty 2nd T. H. Merrick	114	8	187.21	120	67.21		
Terling Matrix 3rd Bred by Lord Rayleigh	Fintloch Janette	151*	10	106.83	80	26.83	70.86	Reserve
	Fintloch Jemima	153*	10	124.03	80	44.03		

Class 35. Progeny of Red Poll Bull.—Entries 2; present 1. The first and only prize in this class was gained by the progeny of the bull "Leylands Daffodil Pear" (14980). His daughters were "Kirton Sundial" (No. 169) and "Kirton Fantasy" (No. 181), bred and exhibited by Mr. Stuart Paul. The points gained by these were 111.55.

Class 36. Progeny of Ayrshire Bull.—Entries 3; present 0.

Class 37. Progeny of Guernsey Bull.—Entry 1; present 1. Although two daughters were forward in this class neither attained the standard points in the class, and therefore no award was made.

Class 38. Progeny of Jersey Bull.—No entry.

Class 39. Progeny of Bull of any other Breed.—No entry.

CHALLENGE CUPS AND TROPHIES.

Open to all Breeds.

1. *The British Dairy Farmers' Association Supreme Individual Championship Trophy.*—This trophy is the highest and most important award which can be won by an individual animal at the Show. It is awarded to the owner of the cow gaining the greatest number of points on Inspection, in the Milking Trials and in the Butter Tests, provided that during the trials the milk analysed contains not less than 3 per cent. of fat and 8·5 per cent. solids-not-fat.

After the Milking Trials and Butter Test figures are available a Breed Society may then select not more than two animals of its breed from the cow classes to parade for the award of points by inspection. The animal or animals chosen must have gained points up to the respective class standards in the Milking Trials and Butter Tests. When judged by Inspection the best animal in the opinion of the judge is awarded 125 points and the remaining animals receive points according to the judge's opinion. The points allocated on Inspection are then added to those gained in the Milking Trials and Butter Tests.

On this occasion the Inspection judging was carried out by Mr. F. C. Goodwin. Twelve animals from the following breeds paraded:—Dairy Shorthorn (two), Lincoln Red (one), British Friesian (two), Red Poll (one), Ayrshire (two), Guernsey (two) and Jersey (two). The points gained by each animal and the awards are shown in the following table:—

Cow.				Points gained in				Award.
Number and Breed.				Milking Trials.	Butter Tests.	Inspection.	Total Points.	
213	Ayrshire	...	...	184·50	60·50	110·00	355·06	Winner Reserve
127	British Friesian	...	...	193·07	54·75	100·00	347·82	
203	Ayrshire	...	...	160·57	49·50	120·00	330·07	
1	Dairy Shorthorn	...	...	146·58	49·00	125·00	320·58	
102	British Friesian	...	...	193·85	46·25	80·00	320·10	
27	Dairy Shorthorn	...	...	149·51	44·25	115·00	308·76	
306	Jersey	...	...	157·85	61·35	70·00	289·20	
169	Red Poll	...	...	185·61	43·15	60·00	288·76	
208	Jersey	...	...	127·54	49·75	75·00	252·29	
82	Lincoln Red Shorthorn	...	...	142·89	51·50	50·00	244·39	
271	Guernsey	...	...	128·97	44·50	35·00	208·47	
281	Guernsey	...	...	111·12	38·10	30·00	179·22	

The winner of the trophy was the Ayrshire cow "Barboigh Liliass 28th" (No. 213**), bred and shown by Mr. Alex Watson, Barboigh, Mauchline, Ayrshire, and the reserve was the British Friesian cow, "Oakham Dainty Gem" (No. 127), bred and shown by Mr. Cecil Ball, Oakham, Rutland. It is worthy of note that both of these animals were under five years of age. The trophy was presented to the winner by Lord Eltisle, who paid a well-deserved tribute to Mr. Watson and his cow.

2. *The Bledisloe Challenge Trophy*.—This trophy is awarded to the Breed Society judged to have the best exhibit of six good all-round dairy cows. To the total of the Milking Trial points gained by the six cows there is added the Inspection points awarded by the judge. The team which he considers best receives 500 points and the other teams receive points according to the judge's opinion.

Four Breed Societies sent forward teams—the Dairy Shorthorns, British Friesian, Ayrshire and Jersey—which were judged by Mr. Walter Wilson on the afternoon of Wednesday before a large crowd, which on this occasion had ample opportunity to see the judging in comfort.

The trophy was won by the British Friesian team with 1542·88 points, and the Ayrshire team was reserve with 1508·78 points.

The following table gives the details of each team :—

BRITISH FRIESIAN.		AYRSHIRE.	
Number in Catalogue.	Milking Trial Points.	Number in Catalogue.	Milking Trial Points.
100	181·71	203	160·57
102	193·85	204	159·36
108	170·39	213	184·56
109	184·58	215	178·71
127	193·07	230	168·59
132	169·28	235	176·99
Total M.T. Points ...	1092·88	Total M.T. Points ...	1028·78
Inspection Points ...	450·00	Inspection Points ...	480·00
TOTAL ...	1542·88	TOTAL ...	1508·78

WINNING TEAM.		RESERVE TEAM.	
DAIRY SHORTHORN.		JERSEY.	
Number in Catalogue.	Milking Trial Points.	Number in Catalogue.	Milking Trial Points.
1	146·58	298	127·54
7	146·19	306	157·85
3	137·98	296	138·23
20	144·25	293	120·17
27	149·51	301	139·03
64	151·51	314	142·16
Total M.T. Points ...	876·02	Total M.T. Points ...	824·98
Inspection Points ...	500·00	Inspection Points ...	440·00
TOTAL ...	1376·02	TOTAL ...	1264·98

A summary of the points gained by each team is given below :—

Breed.	Milking Trial Points.	Inspection Points.	Total.	Award.
British Friesian ...	1092·88	450·00	1542·88	Winner
Ayrshire ...	1028·78	480·00	1508·78	Reserve
Dairy Shorthorn ...	876·02	500·00	1376·02	
Jersey... ..	824·98	440·00	1264·98	

The trophy was presented by Lord Eltisley to Mr. G. B. Radeliffe, representing the British Friesian Cattle Society, before a most representative gathering of breeders of dairy stock.

3. *The Morrison Challenge Trophy*.—This trophy is awarded on lines intended to recognise consistent all-round success at three successive Dairy Shows. Competition is limited to animals which have attained the standard of the class in which they were exhibited in the Milking Trials and in the Butter Tests at three successive Shows, and the winner is the animal which has gained the highest number of points according to the following scale :—

- (a) Milking Trials—Number of points over class standard.
- (b) Butter Tests—Three times the number of points over the class standard.
- (c) Inspection—1st prize, 40 points; 2nd prize, 30; 3rd prize, 20; 4th or reserve 10.

Three animals were eligible for competition, and when the results of the classes at the current Show were available, it was found that the winner was Mr. Stuart Paul's Red Poll cow, "Kirton Sundial" (No. 169), with 394·60 points. Mr. C. J. Allday's Dairy Shorthorn "Fothering Foggathorpe 2nd" (No. 1) was reserve with 371·70 points. The points obtained under the different headings are set out below :—

" KIRTON SUNDIAL."

Year.	No. in Catalogue.	Milking Trials.			Butter Tests.			Inspection.	
		Points.	Class Standard.	Net Points	Points.	Class Standard.	Net Points	Award.	Points.
1935	221	129·51	83·3	46·21	43·20	28·3	44·70	2nd	30
1936	192	187·23	83·3	103·93	44·20	28·3	47·70	None	—
1937	169	185·61	100·0	85·61	43·15	41·0	6·45	2nd	30
			Total	235·75		Total	98·85	Total	60

Grand Total ... 394·60

" FOTHERING FOGGATHORPE 2ND."

Year.	No. in Catalogue.	Milking Trials.			Butter Tests.			Inspection.	
		Points.	Class Standard.	Net Points	Points.	Class Standard.	Net Points	Award.	Points.
1935	33	130·44	83·3	47·14	45·25	28·3	50·85	2nd	30
1936	20	147·58	95·8	51·78	53·75	28·3	76·35	3rd	20
1937	1	146·58	115·0	31·58	49·00	41·0	24·00	1st	40
			Total	130·50		Total	151·20	Total	90

Grand Total ... 371·70

4. *The Barham Challenge Cup*.—This cup is awarded to the owner of the cow gaining the greatest number of points in Milking Trials. This year the winner was the Strutt & Parker (Farms), Ltd., through the performance of "Lavenham Unique 8th" (No. 102) with 193·85 points, and the reserve was Mr. Cecil Ball's "Oakham Dainty Gem" (No. 127) with 193·07 points.

5. *The Spencer Challenge Cup*.—This cup, which has been available for competition since a former Coronation year—1902—is awarded to the owner of the cow gaining the greatest number of points in the Milking Trials, Butter Tests and by Inspection. The cup to be won three times (not necessarily in consecutive years) by the same exhibitor before becoming his absolute property. Under Inspection 50 points are allotted for a first prize, and, in descending order of merit, 45, 40, 35, 30 and 25.

This year the winner was Mr. Cecil Ball with "Oakham Dainty Gem" (No. 127), scoring 287·82 points. The reserve followed closely behind—Mr. Alex Watson's "Barboigh Liliat 28th" (No. 213**) with 285·06 points.

Special notice must be paid to the fact that by this victory, the Spencer Cup becomes Mr. Ball's own property. This cup has been competed for annually since 1902—with the exception of the war years, when no Show was held—and has been won on two occasions by four other competitors. Mr. Ball's previous successes were in 1932 and 1934 with his cow "Oakham Dainty," the dam of this year's winner, and his third success removes one of the best known trophies from competition at the Show.

6. *The Shirley Cup* is awarded to the owner of the cow giving the greatest average daily weight of milk during the two days of the Milking Trials, provided the milk contains not less than 3·0 per cent. fat and 8·5 per cent. solids-not-fat.

On this occasion the awards were a repetition of those for the Barham Cup. Winner, Strutt & Parker (Farms), Ltd., with "Lavenham Unique" (No. 102), which yielded 92·95 lb. milk, and Mr. Cecil Ball's "Oakham Dainty Gem" (No. 127), which yielded 88·35 lb. milk was reserve.

7. *The Breeders' Milk Challenge Trophy* is awarded to the owner of the cow or heifer of any breed, entered in or eligible for the Herd Book of its Breed, obtaining in the Milking Trials the greatest number of points for milk per 1,000 lb. live weight with lactation points added. Animals to be eligible for this trophy must have been bred by the owner and must be stalled in the section for licensed cattle or have passed the tuberculin test on or after 1st August, 1937.

This year the winner was Mr. David Smith's Ayrshire cow "Kilmaurs Mains Mermaid" (No. 215**), whose points per 1,000 lb. live weight were 165.32. The reserve was the Jersey heifer "Mermaid 2nd" (No. 331**), with 160.34 points, exhibited by the Ladies Constance Ryder and Audrey Anson.

8. *The National Milk Challenge Cup*.—This cup is awarded on the same lines as the Breeders' Milk Challenge Trophy, without the condition that competing animals must have passed the tuberculin test. This difference in the conditions admitted another animal as winner—Mrs. H. I. Pitman's Jersey cow "Scarletts Aquamarine" (No. 316), with 174.61 points per 1,000 lb. live weight, and Mr. David Smith's "Kilmaurs Mains Mermaid" (No. 215**) was reserve.

9. *The Robert L. Mond Special Prize of £10* is awarded to the owner of the two animals, the progeny of one bull gaining the greatest number of points above their respective class standard (see pages 154 and 155).

The winner of this prize was the Strutt & Parker (Farms), Ltd., with the British Friesian cows "Lavenham Trifolium 6th" (No. 101*) and "Lavenham Unique 8th" (No. 102), daughters of the bull "Lavenham Laddie" (17719), whose total of points was 144.82. Mr. Stuart Paul's pair of Red Polls, "Kirtion Sundial" (No. 169) and "Kirtion Fantasy" (No. 181), was reserve with 111.55 points.

A summary of the distribution of the trophies and reserve positions for open competition among the breeds at the 1937 Show is as follows:—

<i>Trophy.</i>	<i>Winner.</i>	<i>Reserve.</i>
1. Supreme Champion ...	Ayrshire ...	British Friesian
2. Bledisloe Trophy ...	British Friesian ...	Ayrshire
3. Morrison Trophy ...	Red Poll ...	Dairy Shorthorn
4. Barham Cup ...	British Friesian ...	British Friesian
5. Spenceer Cup ...	British Friesian ...	Ayrshire
6. Shirley Cup ...	British Friesian ...	British Friesian
7. Breeders' Cup ...	Ayrshire ...	Jersey
8. National Milk Cup ...	Jersey ...	Ayrshire
9. Robert L. Mond Prize...	British Friesian ...	Red Poll

The Record Performance Table for each class introduced five years ago is given below with such alterations as have been rendered necessary. It is possible that certain errors still exist in this table, and any information of any record incorrectly given will be greatly appreciated.

RECORD PERFORMANCES.

Highest Points gained in the Milking Trials.

Year.	Breed and Class.	Name of Animal.	No. in Catalogue.	Points.
1931	Dairy Shorthorn Cow (over 5 years)	"Orfold Jessie 2nd" ...	9	186.78
1936	Dairy Shorthorn Cow (3 to 5 years)	"Parkhouse Strawberry 16th" ...	18	181.07
1934	Dairy Shorthorn Heifer ...	"St. Clere Ruby 6th" ...	61	132.75
1931	Dairy Shorthorn Cow (Non-pedigree)	"Maud" ...	81	108.35
1936	Dairy Shorthorn Heifer (Non-pedigree)	"Mary" ...	69	122.31
1936	Lincoln Red Shorthorn Cow ...	"Histon Acacia 5th" ...	77	190.38
1937	Lincoln Red Shorthorn Heifer ...	"Burton Venus 17th" ...	89	126.45
1932	British Friesian Cow (over 5 years)	"Oakham Dainty" ...	111	215.30
1937	British Friesian Cow (3 to 5 years)	"Oakham Dainty Gem" ...	127	193.07
1936	British Friesian Heifer ...	"Fintloch Ida" ...	146	140.37
1930	South Devon Cow (over 5 years)	"Milkmaid 14th" ...	181	198.50
1936	South Devon Cow (3 to 5 years)	"Dartington Dairymaid" ...	188	164.29
1932	South Devon Heifer ...	"Ferry Primula" ...	186	114.83
1934	Devon Cow ...	"Corton Comet" ...	184	160.20
1937	Red Poll Cow (over 5 years)	"Kirton Sundial" ...	169	185.61
1936	Red Poll Cow (3 to 5 years)	"Kirton Sundial" ...	102	187.23
1928	Red Poll Heifer ...	"Basildon Rosalind" ...	211	124.80
1926	Blue Albion Cow ...	"Elsenhaim Jessie" ...	204†	156.80
1935	Welsh Black Cow ...	"Grace" ...	249	169.67
1932	Ayrshire Cow (over 5 years)	"Bullington Juno" ...	228	206.10
1937	Ayrshire Cow (3 to 5 years)	"Barboigh Lillias 28th" ...	213	184.56
1937	Ayrshire Heifer ...	"Sheepcotes Relish" ...	252	148.33
1929	Guernsey Cow (over 5 years)	"Hadham Goldstream 11th" ...	259†	158.60
1936	Guernsey Cow (3 to 5 years)	"Bella's Cora 4th of Les Jetteries" ...	297	184.41
1932	Guernsey Heifer ...	"Dairy Queen of Clover Top" ...	260	137.20
1931	Jersey Cow (over 5 years) ...	"Lady Spotted Pearl" ...	300	177.86
1937	Jersey Cow (3 to 5 years) ...	"Conyboro Premature 6th" ...	314	142.16
1937	Jersey Heifer ...	"Loxwood Estellair" ...	337	120.16
1925	Kerry Cow ...	"Buckland Peace 2nd" ...	394†	134.20
1929	Kerry Heifer ...	"Hattingley Ebony" ...	324	85.00
1928	Dexter Cow ...	"Grinstead Taxus" ...	338†	105.19
1929	Dexter Heifer ...	"Grinstead Fuchsia 2nd" ...	335†	63.30

All the above cows were milked thrice daily except those marked †.

RECORD YIELDS OF MILK.

Greatest average yields for two days.—Cows milked thrice daily:—

1929—British Friesian cow "Penshurst Loftly" (No. 124), 102.65 lb.

Greatest average yield for two days—Cows milked twice daily:—

1924—British Friesian cow "Beccles Peggotty" (No. 154), 85.1 lb.

Greatest yield of milk at one milking:—

1921—Dairy Shorthorn (non-pedigree) cow "Golden Sovereign" (No. 89), 47.6 lb.

ERRATA—MILKING TRIALS REPORT, 1936.

B.D.F.A. Journal, Vol. XLIX, p. 158, line 6—"Broom" (No. 307) should read "Dreaming Fleckie Lass" (No. 306).

P. 165, Spencer Cup, line 7—"Kirton Acacia 5th" should read "Histon Acacia 5th."

The following tables supply valuable information on the performances of the different breeds in their respective classes at the 1937 and preceding Shows.

Table I contains in summarised form the entries, the average live weight, milk yield, fat percentages, and points earned and lost in each class, also the average milk yield and points per 1,000 lb. live weight.

Table II shows the number of animals tested, average points gained, number of animals attaining the Association class standard points, and the average live weight of each class at the last three Shows.

Table III shows the average points in the Milking Trials by each class each year since 1922 and the ten-year average.

Table IV shows the highest points gained in each class in each year since 1928.

Table V shows the average yield and quality of the milk yielded by each class at the 1937 Show.

Table VI shows the number of animals yielding milk deficient in fat and solids-not-fat in each class of each Show since 1928.

For comparative purposes the figures for cows milked twice daily and those milked thrice daily are given separately.

TABLE I.—SHOWING THE PERFORMANCE OF EACH CLASS—1937.

Class.	DESCRIPTION.	Number in Class.		Average Live Weight of Class.	Average Yield of Milk.	Yield of Milk per 1,000lbs. Live Weight.	Average Fat.	Animals below Standard for Fat a.m. or p.m.	Animals losing Points for Quality of Milk.	Average Points lost by Class for Quality of Milk.	Average Points per 1,000 lbs. Live Weight.	Average Points gained by Class.	B.D.F.A. Standard Points for Class.
		Entered.	Present in Milking Trials.										
	<i>Cows over 5 years old.</i>			lbs.	lbs.	lbs.	%	%	%				
1	Dairy Shorthorn	19	11	1,337	60.56	45.3	4.08	18.2	18.2	2.73	96.4	128.94	115
4	Ditto Non-pedigree	13	3	1,332	67.03	50.3	3.97	—	—	—	108.4	144.41	115
6	Lincoln Red Shorthorn	7	5	1,377	63.28	45.9	3.66	20.0	20.0	2.00	95.9	132.08	100
8	British Friesian	30	13	1,415	81.61	57.7	3.85	15.4	15.4	3.80	119.8	169.60	120
11	South Devon	4	2	1,462	54.15	37.0	5.13	—	—	—	90.9	132.94	110
15	Red Poll	9	5	1,314	65.53	49.8	4.13	—	—	—	110.0	144.55	100
19	Ayrshire	20	10	1,157	66.61	57.5	4.84	—	—	—	134.3	155.47	115
22	Guernsey	10	3	1,157	55.78	48.2	5.05	—	—	—	114.9	132.91	100
25	Jersey	16	10	948	48.75	51.4	5.64	—	—	—	135.0	128.07	95
	<i>Cows over 3 and under 5 years.</i>												
2	Dairy Shorthorn	18	13	*1,340	59.51	*44.26	3.90	30.8	30.8	3.08	*91.96	124.00	95.8
9	British Friesian	15	7	1,391	76.82	55.23	3.98	14.3	14.3	1.43	118.14	164.31	100
12	South Devon	4	2	1,270	50.13	39.47	5.10	—	—	—	95.80	121.66	91.7
16	Red Poll	9	4	1,192	41.81	35.08	3.73	25.0	25.0	4.00	76.97	91.75	83.3
	Carried forward	174	88										

* Average for 12 animals only.

TABLE II.—SHOWING NUMBER OF COWS TESTED, AVERAGE POINTS GAINED AND NUMBER OF COWS ATTAINING THE ASSOCIATION'S STANDARD—1935 TO 1937.

Class	Description.	B.D.F.A. Standard Points, 1935.	B.D.F.A. Standard Points, 1936-37.	Number of Cows Tested.		Average Points Gained.		Number and Percentage of Cows above Standard.				Average Live Weight of Class.	
				1935	1936	1937	1935	1936	1937	1935	1937	lbs.	lbs.
1	Dairy Shorthorn Pedigree Cow	100.0	115.0	9	7	11	8	88.9	6	83.7	10	1,378	1,440
2	Ditto (3-5 years)	83.3	95.8	23	12	13	22	95.6	10	83.3	11	1,275	1,350
3	Ditto Heifer	66.7	76.7	9	7	8	8	88.8	7	100.0	6	1,099	1,134
4	Ditto Non-pedigree Cow	110.0	115.0	6	4	3	5	83.3	3	75.5	3	1,375	1,328
5	Ditto Heifer	73.3	76.7	9	6	4	7	77.8	5	83.3	3	1,119	1,042
6	Lincoln Red Shorthorn Cow	100.0	100.0	11	9	5	9	81.8	8	88.8	5	1,406	1,388
7	Ditto Heifer	66.7	66.7	8	6	4	8	100.0	5	83.3	4	1,163	1,198
8	British Friesian Cow	110.0	120.0	9	11	13	8	88.9	10	90.9	12	1,373	1,461
9	Ditto (3-5 years)	91.7	100.0	9	11	7	8	88.9	11	100.0	7	1,250	1,359
10	Ditto Heifer	73.3	80.0	0	9	4	5	55.6	6	66.6	4	1,214	1,302
11	South Devon Cow	100.0	110.0	5	3	2	4	80.0	3	100.0	2	1,680	1,743
12	Ditto (3-5 years)	83.3	91.7	5	5	2	5	100.0	5	100.0	2	1,514	1,566
13	Ditto Heifer	66.7	73.3	3	4	3	2	66.7	4	100.0	3	1,395	1,368
14	Devon Cow	90.0	85.0	4	—	—	2	50.0	—	—	—	1,481	—
15	Red Poll Cow	100.0	100.0	17	12	5	13	76.5	12	100.0	5	1,242	1,255
16	Ditto (3-5 years)	83.3	83.3	9	9	4	7	77.8	9	100.0	2	1,193	1,171

* Average for 12 animals only.

N.B.—All the above results are from cows milked thrice daily.

TABLE II.—SHOWING NUMBER OF COWS TESTED, AVERAGE POINTS GAINED AND NUMBER OF COWS ATTAINING THE ASSOCIATION'S STANDARD—1935 TO 1937.—*Continued.*

Class.	Description.	B.D.F.A. Standard Points, 1935.		Number of Cows Tested.			Average Points Gained.			Number and Percentage of Cows above Standard.						Average Live Weight of Class.	
		1935.	1936-37.	1935	1936	1937	1935	1936	1937	1935	1936	1937	%	%	%	1935	1937
17	Red Poll Heifer...	66.7	66.7	11	6	4	91.72	84.08	76.83	10	90.1	5	83.3	3	75.0	1,052	1,079
18	Welsh Black Cow	90.0	85.0	6	2	—	110.11	130.06	—	4	66.7	2	100.0	—	—	1,268	1,226
19	Ayrshire Cow	100.0	115.0	9	10	10	149.60	149.55	155.47	9	100.0	15	83.7	10	100.0	1,240	1,136
20	Ditto (3-5 years)	83.3	93.8	7	9	12	141.25	131.41	154.48	7	100.0	8	88.8	12	100.0	1,154	1,059
21	Ditto Heifer	66.7	76.7	13	11	15	106.39	108.68	113.29	13	100.0	11	100.0	14	93.3	1,106	1,070
22	Guernsey Cow	85.0	100.0	8	7	3	112.74	125.51	132.91	8	100.0	7	100.0	3	100.0	1,145	1,109
23	Ditto (3-5 years)	70.8	83.3	9	8	2	107.30	133.71	93.35	9	100.0	8	100.0	1	50.0	1,031	1,068
24	Ditto Heifer	56.7	66.7	5	4	5	100.20	98.19	80.05	5	100.0	3	75.0	3	60.0	932	937
25	Jersey Cow	90.0	95.0	14	18	16	122.76	125.84	128.67	14	100.0	18	100.0	10	100.0	960	900
26	Ditto (3-5 years)	75.0	79.2	6	14	13	107.92	106.28	109.98	6	100.0	13	92.9	13	100.0	933	900
27	Ditto Heifer	60.0	63.3	10	11	7	89.67	85.88	87.20	10	100.0	10	90.9	6	85.7	750	746
28	Kerry Cow	80.0	80.0	—	4	—	—	70.78	—	—	—	2	50.0	—	—	—	966
29	Ditto Heifer	53.3	53.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
30	Dexter Cow	70.0	65.0	4	4	—	77.76	83.75	—	3	75.0	4	100.0	—	—	726	694

N.B.—All the above results are from cows milked thrice daily.

TABLE III.—AVERAGE POINTS GAINED IN THE MILKING TRIALS EACH YEAR SINCE 1922.

YEAR.	D.S. Cow over 3-5 years.	D.S. Heifer.	D.S. Non- prod. Cow.	D.S. Non- prod. Heifer.	L.R.S. Cow.	L.R.S. Heifer.	B.F. Cow over 5 years.	B.F. Heifer.	S.D. Cow over 5 years.	S.D. Heifer.	Devon Cow.	P.R. Cow over 5 years.	R.P. Cow over 3-5 years.
B.D.F.A. Class Standard ...	100.0	83.3	110.0	73.3	100.0	66.7	110.0	91.7	100.0	83.3	90.0	100.0	83.3
" " 1936	115.0	95.8	115.0	76.7	100.0	66.7	120.0	100.0	110.0	91.7	85.0	100.0	83.3
1922 ...	107.7	94.9	108.1	73.0	113.2	71.4	120.2	92.6	100.5	—	98.7	91.5	76.4
1923 ...	114.4	100.9	111.4	88.7	114.2	88.9	135.0	117.4	114.9	—	99.7	110.7	95.5
1924 ...	109.5	88.3	103.0	69.8	103.8	65.1	118.2	108.8	—	—	93.6	102.1	89.6
1925 ...	108.2	92.8	103.9	73.3	115.4	84.6	123.8	119.8	114.9	—	103.2	125.4	97.7
1926 ...	119.3	88.8	106.0	56.3†	121.1	87.7	120.6†	107.1†	—	—	113.2†	116.5	90.1
1928 ...	101.4	90.6	106.8	63.0	121.1	80.2	120.6†	107.1†	—	—	56.0	109.7	120.5†
1929 ...	120.8	91.6	107.7	88.8	127.2†	91.6	—	—	—	—	88.4†	150.9†	96.4
1930 ...	107.2	91.6	120.1	72.8	127.2†	78.7	—	—	—	—	75.3	81.0†	85.5
1931 ...	94.0	93.8	82.5†	76.4	90.4†	88.0	—	—	—	—	—	—	—
1932 ...	86.1	53.7	122.7	—	—	—	—	—	—	—	—	—	—
Milked Twice Daily.													
Average Points of last 10 Shows.	106.3	91.1	108.3	73.2	110.8	82.8	123.6	120.9	110.1	—	91.0	111.2	94.6
1928...	127.6	95.1	75.3	73.6	128.8	95.7	125.6	133.4	127.4	—	—	84.6	126.6
1929...	137.0	112.3	70.2	59.9	125.7	83.2	153.0	136.4	130.7	—	138.4†	119.8	102.2
1930...	131.2	107.1	80.8	50.9	121.9	83.2	125.5	131.4	130.7	—	45.8†	129.5	119.0
1931...	139.7	130.7	87.6	64.9	140.5	87.0	161.4	162.0	140.7	—	—	147.2	130.0
1932...	138.7	125.6	94.6	71.8†	140.5	80.9	142.7	122.6	125.0	100.8	—	113.9	110.9
1933...	129.5	115.8	80.3	69.8	104.9	80.9	152.8	123.4	103.2	120.4	—	113.4	105.0
1934...	144.1	122.6	90.7	77.3	108.6	80.6	163.1	145.7	134.8	104.1	—	138.7	138.7
1935...	139.6	122.2	86.5	88.2	121.3	90.7	151.4	127.1	132.2	100.0	111.1	124.3	112.9
1936...	131.3	131.3	101.4	89.1	126.7	101.1	158.0	149.1	135.0	92.2	107.4	135.3	119.2
1937...	128.9	124.6	89.2	87.1	132.1	94.1	169.6	164.3	132.9	87.3	—	144.5	91.7
Milked Thrice Daily.													
Average Points of last 10 Shows	136.0	113.8	86.5	84.9	120.2	92.1	150.7	139.5	133.4	125.5	100.7	124.4	112.6

† Points for one animal only.

TABLE III.—AVERAGE POINTS GAINED IN THE MILKING TRIALS EACH YEAR SINCE 1922.—Continued.

YEAR.	R.P. Heifers.	B.A. Cow.	B.A. Heifers.	W.B. Cow.	A. Cow over 5 years.	A. Cow 3-5 years.	G. Cow over 5 years.	G. Cow 3-5 years.	G. Heifers. 5 years.	J. Cow over 5 years.	J. Cow 3-5 years.	J. Heifers.	K. Cow.	K. Heifers.	Dexter Cow. Heifer.
B.D.F.A. Class	66.7	100.0	66.7	90.0	100.0	83.3	66.7	70.8	56.7	90.0	75.0	60.0	80.0	33.3	70.0
Standard	66.7	100.0	66.7	83.0	115.0	95.8	76.7	83.3	66.7	95.0	70.2	63.3	80.0	33.3	65.0
Standard, 1936	66.7	100.0	66.7	83.0	115.0	95.8	76.7	83.3	66.7	95.0	70.2	63.3	80.0	33.3	65.0
1922 ...	61.7	75.3	—	—	95.7	—	78.5	72.4	62.2	79.7	—	72.1	75.3	49.0	50.7
1923 ...	72.0	100.0	—	—	128.5	—	82.4	72.4	62.2	80.8	—	72.1	75.3	49.0	50.7
1924 ...	71.5	100.0	—	—	131.1	—	82.9	72.4	62.2	80.8	—	72.1	75.3	49.0	50.7
1925 ...	71.5	100.0	—	—	131.1	—	82.9	72.4	62.2	80.8	—	72.1	75.3	49.0	50.7
1926 ...	77.2	120.1	—	—	121.7	—	77.5	76.6	61.8	95.3	92.5	68.7	105.6	63.6	72.8
1927 ...	77.2	120.1	—	—	121.7	—	77.5	76.6	61.8	95.3	92.5	68.7	105.6	63.6	72.8
1928 ...	77.2	120.1	—	—	121.7	—	77.5	76.6	61.8	95.3	92.5	68.7	105.6	63.6	72.8
1929 ...	77.0*	130.0	—	—	138.7*	—	83.4*	80.7*	63.1*	103.9	101.3	73.1	112.3	65.3	105.8
1930 ...	77.0*	130.0	—	—	138.7*	—	83.4*	80.7*	63.1*	103.9	101.3	73.1	112.3	65.3	105.8
1931 ...	76.3*	103.6	64.7	—	—	—	105.8*	97.3*	84.5*	102.4	92.2	73.3	87.6	—	67.4
1932 ...	76.3*	103.6	83.0*	—	—	—	105.8*	97.3*	84.5*	102.4	92.2	73.3	87.6	—	67.4
Milked Twice Daily.	—	—	—	—	—	—	135.2	82.5	63.4	100.3	101.0	76.2	93.9	—	53.2
Average Points of last 10 Shows	74.9	107.0	73.8	—	123.7	—	82.6	96.3	91.4	90.8	95.0	71.7	88.6	50.2	67.7
1928	73.6	—	—	—	138.4	—	104.1	111.2	99.9	114.3	93.5	97.2*	80.8	68.6	82.8
1929	88.0	—	—	—	143.9	—	104.1	143.7*	113.8	100.9	107.9	82.9	94.0	69.1	86.1
1930	72.4	—	—	—	127.4	—	90.8	113.5	114.6	102.1	79.7	80.9	102.1*	71.9*	50.2*
1931	95.5	113.7*	115.2*	97.2	149.3	—	95.2	123.0	114.9	122.3	115.3	96.5	—	—	—
1932	—	—	—	—	162.8	—	101.4	109.7	93.0	112.3	115.8	86.6	79.9	—	—
1933	—	—	—	—	149.6	—	86.0	115.8	99.6	113.9	112.6	82.9	—	—	—
1934	82.0	—	—	—	151.1	—	105.4	112.5	102.7	116.0	109.3	82.9	102.2	62.0	83.0
1935	82.0	—	—	—	151.1	—	105.4	112.5	102.7	116.0	109.3	82.9	102.2	62.0	83.0
1936	84.1	—	—	—	149.6	141.3	108.4	112.7	107.3	122.7	107.9	89.7	—	—	77.8
1937	76.8	—	—	—	139.1	149.6	131.4	133.7	125.8	125.8	106.3	89.7	70.8	—	83.5
Milked Once Daily.	—	—	—	—	153.5	154.5	113.3	132.9	93.3	128.1	110.0	87.2	—	—	—
Average Points of last 10 Shows	83.0	113.7*	115.2*	108.4	146.8	142.4	101.5	120.3	107.3	116.3	105.3	87.7	88.3	68.0	76.9

* Points for one animal only.

TABLE IV.—SHOWING THE HIGHEST POINTS GAINED EACH YEAR SINCE 1928.

YEAR.	D.S. Cow over 5 years.	D.S. Cow 3-5 years.	D.S. Heifer.	D.S. Non- prod. Cow.	D.S. Non- prod. Heifer.	L.R.S. Cow.	L.R.S. Heifer.	B.F. Cow over 5 years.	R.F. Cow 3-5 years.	B.F. Heifer.	S.D. Cow over 5 years.	S.D. Heifer.	Devon Cow.	R.P. Cow over 5 years.	R.P. Cow 3-5 years.
1928*	123.3	109.0	77.1	115.0	78.8	100.7	98.3	103.7	180.1	115.0	158.6	—	68.9	131.1	120.5
1928†	139.3	115.0	90.4	151.2	93.9	163.3	99.9	183.7	180.1	115.0	158.6	—	—	129.9	154.7
1929*	147.0	134.4	91.2	151.2	104.2	167.2	103.1	186.5	170.0	97.4	183.6	—	—	156.9	—
1929†	149.5	127.1	91.3	158.8	86.8	157.7	103.1	186.5	170.0	97.4	183.6	—	138.4	160.8	120.4
1930*	125.7	143.0	93.9	128.6	59.9	127.6	81.5	169.8	102.0	125.1	198.5	—	45.8	81.0	103.5
1930†	147.8	143.0	102.5	132.5	83.3	169.4	80.1	169.8	102.0	125.1	198.5	—	—	154.2	94.5
1931*	119.8	130.8	95.1	132.5	83.3	169.4	80.1	169.8	102.0	125.1	198.5	—	—	154.2	94.5
1931†	160.8	111.8	138.7	138.7	91.1	176.0	94.4	191.4	171.3	133.9	173.5	—	93.5	177.3	147.7
1932*	98.6	108.2	112.9	127.3	113.4	125.0	102.3	215.3	175.6	113.3	140.0	158.7	—	155.5	144.7
1932†	160.1	102.3	177.3	157.3	113.4	125.0	102.3	215.3	175.6	113.3	140.0	158.7	—	155.5	144.7
1933*	138.5	164.7	136.7	156.7	107.4	131.4	118.3	201.0	164.4	109.8	150.0	145.2	—	130.5	124.3
1933†	174.0	156.0	137.7	159.6	113.6	137.9	126.2	181.5	165.3	108.8	149.4	162.2	160.2	164.9	134.5
1934*	171.4	137.7	107.3	135.0	113.6	140.4	110.9	208.6	162.5	140.4	189.7	104.3	133.8	160.6	143.8
1934†	175.8	181.1	113.3	167.0	123.8	140.4	110.9	208.6	162.5	140.4	189.7	104.3	—	158.1	187.2
1935*	146.5	149.5	115.2	131.5	102.6	142.8	126.4	193.8	193.0	130.4	133.8	131.8	—	185.6	114.3
1935†	146.5	149.5	115.2	131.5	102.6	142.8	126.4	193.8	193.0	130.4	133.8	131.8	—	185.6	114.3

YEAR.	R.P. Heifers.	B.A. Cow.	B.A. Heifers.	W.B. Cow.	A. Cow over 5 years.	A. Cow 3-5 years.	A. Heifers.	G. Cow over 5 years.	G. Cow 3-5 years.	G. Heifers.	J. Cow over 5 years.	J. Cow 3-5 years.	J. Heifers.	K. Cow.	K. Heifers.	Dexter Cow.	Dexter Heifers.
1928*	124.8	125.9	—	—	138.7	—	63.2	93.8	114.7	69.1	113.2	100.1	95.3	98.5	51.8	105.9	—
1928†	77.0	147.3	—	—	176.3	—	122.5	126.9	132.3	90.0	139.0	122.6	97.3	80.8	71.1	84.9	—
1929*	103.4	—	—	—	—	—	133.7	158.6	132.3	89.9	106.4	107.4	87.7	91.2	—	88.1	—
1929†	—	145.5	80.2	—	187.2	—	108.6	143.7	164.3	84.5	116.9	121.9	96.5	98.7	85.0	96.1	—
1930*	105.6	—	—	—	—	—	108.6	105.8	97.3	—	122.1	131.0	91.8	102.1	—	80.3	72.3
1930†	76.3	104.0	83.0	116.9	146.4	—	108.6	138.6	149.1	110.0	114.4	93.7	90.2	102.1	28.9	82.3	56.7
1931*	117.3	113.7	105.2	—	180.2	—	105.6	168.2	102.9	—	131.0	117.0	86.4	110.6	61.6	52.1	—
1931†	—	—	—	—	—	—	135.2	134.4	137.5	93.9	177.9	128.5	119.5	90.1	—	68.4	—
1932*	—	—	—	—	206.1	—	131.9	135.2	82.5	68.8	140.4	125.3	97.0	98.3	—	66.2	—
1932†	118.1	—	—	152.2	192.3	—	113.6	124.8	129.6	137.2	112.3	138.0	117.2	98.7	—	94.2	63.1
1933*	104.9	—	—	132.4	190.5	—	136.1	140.1	122.5	113.2	126.7	133.9	107.6	123.6	72.7	100.6	—
1933†	124.6	—	—	160.7	170.9	157.2	145.5	141.4	131.9	126.9	157.4	127.0	113.2	111.1	—	97.6	—
1934*	110.3	—	—	155.2	175.7	184.5	148.3	149.3	184.4	124.2	157.0	137.8	120.1	98.2	—	98.2	—
1934†	92.1	—	—	174.2	174.2	184.5	148.3	140.8	111.1	102.5	157.8	142.1	120.1	—	—	—	—

* Milked twice daily.

† Milked thrice daily.

TABLE VI.—NUMBER OF ANIMALS YIELDING MILK DEFICIENT IN FAT AND OTHER SOLIDS.

BREED AND CLASS.	Less than 3 per cent. of Fat.										Less than 8.5 per cent. of Non-Fatty Solids.									
	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
Dairy Shorthorns—Ped. over 5 years	2	0	0	1	5	3	1	0	0	2	0	1	2	0	1	3	2	0	0	0
Ditto. 3-5 years ...	6	0	0	4	4	1	2	0	1	4	1	1	1	0	0	3	1	0	2	0
Ditto. Heifers
Dairy Shorthorns—Non-Ped. Cows
Ditto. Heifers
Lincoln Red Shorthorn Cows
Ditto. Heifers
British Friesian Cows. Over 5 years
Ditto. 3-5 years
Ditto. Heifers
South Devon Cows. Over 5 years
Ditto. 3-5 years
Ditto. Heifers
Devon Cows
Red Poll Cows. Over 5 years
Ditto. 3-5 years
Ditto. Heifers
Blue Albion Cows
Ditto. Heifers
Welsh Black Cows
Ayrshire Cows. Over 5 years...
Ditto. Heifers
Guernsey Cows. Over 5 years
Ditto. 3-5 years
Ditto. Heifers
Jersey Cows. Over 5 years
Ditto. 3-5 years
Ditto. Heifers
Kerry Cows
Ditto. Heifers
Dexter Cows
Ditto. Heifers
Total ...	33	21	41	21	51	33	23	35	34	15	7	30	29	15	21	20	23	16	13	4
Number Tested ...	201	198	232	218	209	202	251	247	229	169	201	198	232	218	200	202	251	247	229	169

MILKING TRIALS, 1937.

CLASS 1.—DAIRY SHORTHORN COW, ENTERED IN OR ACCEPTED FOR COATES' HERD BOOK. BORN ON OR PREVIOUS TO 1ST AUGUST, 1932. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 8,000 LBS. AT FIVE YEARS OLD OR OVER, OR 6,000 LBS. AT UNDER FIVE YEARS OLD DURING A LACTATION PERIOD OF 45 WEEKS, RECORDED BY A RECOGNISED MILK RECORDING SOCIETY.

Number Name	1 Fothering Foggathorpe 2nd.	2 Countess Clara 3rd. July 28, 1928, 1,408 Oct. 2, 18	3 Hothersall Dainty Darlington 3rd. Sept. 3, 1930, 1,523 Sept. 21, 29	4 Checkendon Waterloo Crab 2nd. July 16, 1932, 1,497 Sept. 3, 47
Born	April 21, 1932, 1,316 Sept. 23, 27			
Live weight, in lbs.				
Last Calved				
Days since Calving				
Weight of Milk, 1st day	Morn. 22-1 Aft. 22-3 Even. 23-3	Morn. 16-7 Aft. 17-4 Even. 17-1	Morn. 18-0 Aft. 18-1 Even. 20-1	Morn. 24-6 Aft. 25-3 Even. 24-9
Weight of Milk, 2nd day	22-1 22-3 23-3	16-7 17-4 17-1	18-1 18-1 20-1	25-3 25-6 24-9
Total	40-4	33-9	30-1	50-2
Average	23-2	16-95	19-55	25-1
Percentage (Fat	3-56	4-52	5-43	2-71
Composition of)	8-86	9-19	8-59	9-03
the Milk)	12-42	13-48	14-02	11-74
Actual weight of Fat, in lbs.	0-826	1-063	1-082	0-680
Actual weight of Solids other than Fat, in lbs.	2-06	1-99	1-57	2-27
Total	47-40	51-15	30-20	74-70
For weight of Milk (lbs.)	55-02	55-02	38-46	41-00
For weight of Fat (lbs. × 20)	24-10	18-84	20-32	20-82
For weight of Solids other than Fat (lbs. × 4)				
Total Points for Milk	146-58	116-75	137-98	142-58
Deductions	—	—	—	20-0
TOTAL POINTS GAINED FOR MILK	146-58	116-75	137-98	122-58
Points for time since Calving	—	—	—	0-7
TOTAL POINTS GAINED	146-58	116-75	137-98	123-28
Points gained for Milk per 1,000 lbs. live weight	108-90	72-61	90-59	81-88
Points for time since Calving	—	—	—	0-7
Total Points per 1,000 lbs. live weight	108-90	72-61	90-59	82-58
Remarks and Awards	1st Prize.	Highly Commended.	4th Prize.	6th Prize.

CLASS I.—DAIRY SHORTHORN COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1932.)—Continued.

Number Name ...	...	...	...	...	...	7 Hdmescales Furbelow 3rd.	8 Sizergh Primrose	9 Chevet Clover	11 Copsale Wild Eyes 15th.
Born ...	...	...	...	...	...	Mar. 28, 1932. 1,297	Sept. 4, 1930. 1,326	Oct. 2, 1930. 1,285	Sept. 15, 1931. 1,408
Live weight, in lbs. ...	...	...	...	...	...	Oct. 3, 17	Sept. 12, 38	July 22, 90	Sept. 9 41
Last Calved ...	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Days since Calving ...	...	...	...	...	...	21.5 20.7 21.2	20.4 18.3 16.5	20.9 20.6 21.4	20.9 20.8
	...	...	...	...	...	20.0 21.5 20.2	19.5 20.3 17.3	19.6 20.9 19.5	21.3 22.9 22.0
Weight of Milk, 1st day ...	...	...	...	...	...	41.5 42.2 41.4	39.9 38.6 33.8	40.5 41.5 40.9	42.2 45.1 42.8
Weight of Milk, 2nd day ...	...	...	...	...	...	20.75 21.1 20.7	19.95 19.3 16.9	20.25 20.75 20.45	21.1 22.55 21.4
Total ...	...	...	...	...	...	4.74 4.99 4.70	3.50 4.21 3.19	2.01 3.70 3.74	3.70 3.86 3.28
Average ...	...	...	...	...	...	9.16 9.49 9.16	8.76 8.57 9.15	8.79 8.98 8.98	8.52 8.50 8.50
Percentage { Fat ...	...	...	...	...	...	13.00 14.48 13.02	12.26 12.78 12.34	11.70 12.08 12.72	12.22 12.36 11.78
Composition of { Solids other than Fat ...	...	...	...	...	...	0.984 1.053 0.985	0.698 0.813 0.539	0.589 0.768 0.765	0.781 0.870 0.702
Actual weight of Fat, in lbs. ...	...	...	...	...	...	1.90 2.00 1.90	1.75 1.65 1.55	1.78 1.80 1.84	1.80 1.92 1.82
Actual weight of Solids other than Fat, in lbs. ...	...	...	...	...	...	62.55	50.15	61.45	65.05
Points ...	...	...	...	...	...	60.44	41.00	42.44	47.06
For weight of Milk (lbs.) ...	...	...	...	...	...	23.20	19.80	21.92	22.16
For weight of Fat (lbs. × 20) ...	...	...	...	...	...	146.19	116.95	125.81	134.27
For weight of Solids other than Fat (lbs. × 4) ...	...	...	...	...	...	—	—	10.0	—
Total Points for Milk ...	...	...	...	...	...	146.19	116.95	115.81	134.27
Deductions ...	...	...	...	...	...	—	—	5.0	0.1
TOTAL POINTS GAINED FOR MILK ...	...	...	...	...	...	146.19	116.95	120.81	134.37
Points for time since Calving ...	...	...	...	...	...	118.18	88.20	90.12	95.36
TOTAL POINTS GAINED ...	...	...	...	...	...	—	—	5.0	0.1
Points gained for Milk per 1,000 lbs. live weight ...	...	...	...	...	...	118.18	88.20	95.12	95.46
Points for time since Calving ...	...	...	...	...	...	—	—	—	—
Total Points per 1,000 lbs. live weight ...	...	...	...	...	...	—	—	—	—
Remarks and Awards ...	...	...	...	...	...	2nd Prize.	Highly Commended.	Highly Commended.	5th Prize.

CLASS 1.—DAIRY SHORTHORN COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1932)—Continued.

Number Name	...	...	...	...	13 Oxford Rosette.	15 Lenborough Fillpail 50th.	18 Revels Maggtes Mabel.
Born ...	...	...	...	...	May 13, 1931.	Dec. 7, 1931.	Oct. 20, 1931.
Live weight, in lbs. ...	...	...	...	...	1,238	1,146	1,093
Last Calved ...	...	...	...	...	Sept. 3.	Sept. 20.	Sept. 21.
Days since Calving	...	...	...	...	47	30	29
Weight of Milk, 1st day	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	...	...	...	...	23.4 22.3 22.1	17.4 17.2 18.0	15.4 17.2 16.7
	...	...	...	...	24.1 22.1 21.0	18.3 18.0 19.8	17.9 14.8 15.2
Total	...	...	...	...	47.5 44.4 43.7	35.7 35.2 35.4	33.3 32.0 29.0
Average	...	...	...	...	23.75 22.2 21.85	17.85 17.6 17.7	16.05 16.0 14.95
Percentage (Fat	...	...	...	...	3.53 4.24 3.81	4.61 4.82 4.03	4.68 4.72 3.93
Composition of Solids other than Fat	...	...	...	...	9.27 0.46 0.37	9.07 8.88 8.79	9.12 8.88 9.27
the Milk { Total Solids	...	...	...	...	12.80 13.70 13.18	13.68 13.70 13.42	13.80 13.90 13.20
Actual weight of Fat, in lbs.	...	...	...	...	0.838 0.941 0.832	0.823 0.848 0.820	0.779 0.755 0.588
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	2.20 2.10 2.05	1.62 1.56 1.56	1.52 1.42 1.39
Points—	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	67.80	53.15	47.00
For weight of Fat (lbs. $\times 20$)	...	...	...	...	52.22	49.82	42.44
For weight of Solids other than Fat (lbs. $\times 4$)	...	...	...	...	24.40	18.96	17.32
Total Points for Milk...	...	...	...	...	145.42	121.93	107.36
Deductions ...	...	...	...	...	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	145.42	121.93	107.36
Points for time since Calving	...	...	...	...	0.7	—	—
TOTAL POINTS GAINED	...	...	...	...	146.12	121.93	107.36
Points gained for MILK per 1,000 lbs. live weight...	...	...	...	...	117.46	106.40	98.23
Points for time since Calving	...	...	...	...	0.7	—	—
Total Points per 1,000 lbs. live weight	...	...	...	...	118.16	106.40	98.23
Remarks and Awards	...	...	...	...	3rd Prize.	Reserve.	

CLASS 2.—DAIRY SHORTHORN COW, ENTERED IN OR ACCEPTED FOR COATES' HERD BOOK. BORN AFTER 1ST AUGUST, 1932, AND WHICH HAS PRODUCED TWO OR MORE CALVES.

Number Name	...	...	...	...	...	20 Greattew Hilda 8th	21 Lockinge Fairy 11th.	22 Anderson Barrington Princess 5th.	23 Holmelay Ringlet 32nd.
Born	...	...	...	...	...	Mar. 16, 1934. 1,260 Sept. 27. 23	Nov. 28, 1932. 1,441 Sept. 27. 23	Sept. 27, 1932. 1,441 Sept. 12. 38	Nov. 27, 1932. 1,311 Sept. 12. 38
Live weight, in lbs.	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Last Calved	...	...	...	...	...	20-4 21-3 20-3	16-5 18-4 19-7	17-6 20-0 18-3	22-3 23-0 21-8
Days since Calving	...	...	...	...	...	19-3 18-5 19-0	13-6 17-4 17-9	13-1 17-5 16-0	20-2 21-7 22-3
Weight of Milk, 1st day	...	...	...	...	...	39-7 39-8 40-2	35-1 35-8 37-6	35-7 37-5 34-3	42-5 45-6 44-1
Weight of Milk, 2nd day	...	...	...	...	...	19-85 19-0 20-1	17-55 17-9 18-8	17-85 18-75 17-15	21-25 22-8 22-05
Total	...	...	...	...	...	4-60 6-34 4-96	2-22 3-48 3-20	2-31 3-00 3-04	2-54 3-34 3-05
Average	...	...	...	...	...	8-54 8-98 8-70	8-66 8-78 8-72	8-67 8-83 9-10	8-52 8-90 9-03
Percentage of Fat	...	...	...	...	...	13-14 15-32 13-66	10-88 12-26 11-92	10-98 11-83 12-14	11-26 12-21 12-08
Composition of the Milk	...	...	...	...	...	0-013 1-262 0-997	0-360 0-623 0-602	0-412 0-563 0-521	0-540 0-782 0-871
Actual weight of Fat, in lbs.	...	...	...	...	...	1-70 1-79 1-75	1-52 1-57 1-64	1-55 1-66 1-56	1-85 2-03 1-99
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	59-85 63-44 63-44	54-25 32-30 18-92	53-75 32-92 19-08	66-10 43-46 23-48
Points—	...	...	...	...	...	20-96	105-47 10-0	102-75 10-0	133-04 10-0
For weight of Milk (lbs.)	...	...	...	...	...	144-25	95-47	92-75	123-04
For weight of Fat (lbs. × 20)	...	...	...	...	...	144-25	—	—	—
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	144-25	—	—	—
Total Points for Milk	...	...	...	...	...	144-25	95-47	92-75	123-04
Deductions	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	144-25	95-47	92-75	123-04
Points for time since Calving	...	...	...	...	...	113-67	66-25	53-80	93-85
TOTAL POINTS GAINED	...	...	...	...	...	113-67	66-25	53-80	93-85
Points gained for Milk per 1,000 lbs. live weight.	...	...	...	...	...	113-67	66-25	53-80	93-85
Points for time since Calving	...	...	...	...	...	113-67	66-25	53-80	93-85
Total Points per 1,000 lbs. live weight	...	...	...	...	...	3rd Prize.	—	—	Reserve.
Remarks and Awards	...	...	...	...	...	3rd Prize.	—	—	Reserve.

CLASS 2.—DAIRY SHORTHORN COW (BORN AFTER 1ST AUGUST, 1932)—Continued.

Number Name	...	...	...	...	...	26 Thornby Darling Duchess 7th.	27 Thornby Harrington Duchess 9th.	28 Copsale Wild Eyes 16th.	20 Dainty Princess 12th.
Born	...	...	...	...	...	March 13, 1933, 1,200	Sept. 20, 1933, 1,083	Dec. 12, 1932, 1,175	April 28, 1933, Not weighed.
Live weight, in lbs.	...	...	...	...	...	Sept. 16, 34	Sept. 14, 36	Aug. 30, 51	Sept. 12, 38
Last Calving	...	...	...	...	...	...	...	...	...
Days since Calving	...	...	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	...	...	...	...	...	20.2 18.4 19.2	21.7 21.4 22.8	23.3 23.2 23.0	18.6 20.0 20.8
	...	...	...	...	...	18.4 18.0 16.6	21.9 23.0 22.3	24.2 23.8 24.0	19.7 20.6 23.4
Total	...	...	...	...	...	38.6 36.4 35.8	43.6 44.4 45.1	47.5 48.0 48.8	37.7 41.5 44.2
Average	...	...	...	...	...	19.3 18.2 17.9	21.8 22.2 22.55	23.75 24.0 24.4	18.85 20.75 22.1
Percentage { Fat	...	...	...	...	...	3.44 4.10 5.22	4.52 4.78 4.01	3.17 3.32 3.13	4.90 4.74 4.29
Composition of { Solids other than Fat	...	...	...	...	...	8.74 8.78 9.28	8.96 9.04 9.01	8.85 8.94 9.11	8.96 8.88 8.79
the Milk { Total Solids	...	...	...	...	...	12.18 12.85 14.50	13.48 13.82 13.02	12.02 12.46 12.24	13.86 13.02 13.08
Actual weight of Fat, in lbs.	...	...	...	...	...	0.664 0.746 0.934	0.985 1.061 0.864	0.753 0.845 0.764	0.924 0.984 0.948
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	1.69 1.66 1.66	1.95 2.01 2.03	2.10 2.15 2.22	1.69 1.84 1.94
Points—	...	...	...	...	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	55.40	66.55	72.15	61.70
For weight of Fat (lbs. \times 20)	...	...	...	...	...	49.88	59.00	47.24	57.12
For weight of Solids other than Fat (lbs. \times 4)	...	...	...	...	...	19.89	23.06	25.88	21.88
Total Points for Milk...	...	...	...	...	...	122.08	149.51	145.27	140.70
Deductions ...	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK ...	...	...	...	...	...	122.08	149.51	145.27	140.70
Points for time since Calving	...	...	...	...	...	—	—	1.1	—
TOTAL POINTS GAINED	...	...	...	...	...	122.08	149.51	146.37	140.70
Points gained for Milk per 1,000 lbs. live weight...	...	...	...	...	...	101.73	138.05	123.63	—
Points for time since Calving ...	...	...	...	...	...	—	—	1.1	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	101.73	138.05	124.73	—
Remarks and Awards	...	...	...	...	...	Highly Commended.	1st Prize.	2nd Prize.	4th Prize.

CLASS 2.—DAIRY SHORTHORN COW (BORN AFTER 1ST AUGUST, 1932)—Continued.

Number Name ...	...	...	...	...	...	30 Histon Barrington 10th.	31 Frieth Tiny 4th.	34 Revels Tulp 2nd.
Born ...	...	...	...	...	...	May 1, 1933, 1,436	Aug. 28, 1932, 1,380	Nov. 1, 1932, 1,484
Live weight, in lbs. ...	...	...	...	...	...	Aug. 28, 53	Sept. 3, 47	Aug. 18, 63
Last Calved ...	...	...	...	...	...
Days since Calving ...	...	...	...	...	...
Weight of Milk, 1st day ...	...	...	...	...	...	Morn. Aft. Even. 17.7 16.2 16.5	Morn. Aft. Even. 18.1 20.1 18.8	Morn. Aft. Even. 17.2 19.3 15.8
Weight of Milk, 2nd day ...	...	...	...	...	...	13.9 19.5 13.2	20.0 19.5 19.7	21.2 17.9 16.7
Total ...	...	...	...	...	...	31.6 35.7 31.7	38.1 39.6 38.5	38.4 37.2 32.5
Average ...	...	...	...	...	...	15.8 17.85 15.85	19.05 19.8 19.25	19.2 18.6 16.25
Percentage { Fat ...	...	...	...	...	...	9.56 4.40 4.30	2.30 4.08 3.20	4.59 4.47 4.18
Composition of { Solids other than Fat ...	...	...	...	...	...	8.86 8.66 9.10	9.00 8.60 8.20	8.90 8.85 8.06
the Milk { Total Solids ...	...	...	...	...	...	12.42 13.06 13.06	11.90 12.68 12.92	12.48 13.32 12.84
Actual weight of Fat, in lbs. ...	...	...	...	...	...	0.562 0.785 0.723	0.566 0.808 0.628	0.687 0.831 0.679
Actual weight of Solids other than Fat, in lbs. ...	...	...	...	...	...	1.40 1.55 1.44	1.71 1.70 1.72	1.71 1.65 1.41
Points—	...	...	...	...	...
For weight of Milk (lbs.) ...	...	...	...	...	...	49.30	53.10	54.05
For weight of Fat (lbs. × 20) ...	...	...	...	...	...	41.40	40.04	43.94
For weight of Solids other than Fat (lbs. × 4) ...	...	...	...	...	...	17.56	20.52	19.08
Total Points for Milk ...	...	...	...	...	...	103.46	113.66	117.07
Deductions ...	...	...	...	...	...	—	10.0	—
TOTAL POINTS GAINED FOR MILK ...	...	...	...	...	...	103.46	103.66	117.07
Points for time since Calving ...	...	...	...	...	...	1.3	0.7	2.3
TOTAL POINTS GAINED ...	...	...	...	...	...	109.76	109.36	119.37
Points gained for Milk per 1,000 lbs. live weight ...	...	...	...	...	...	75.33	78.74	78.89
Points for time since Calving ...	...	...	...	...	...	1.3	0.7	2.3
Total Points per 1,000 lbs. live weight ...	...	...	...	...	...	76.83	79.44	81.29
Remarks and Awards ...	...	...	...	...	...	Highly Commended.	Highly Commended.	Highly Commended.

CLASS 2.—DAIRY SHORTHORN COW (BORN AFTER 1ST AUGUST, 1932)—Continued.

Number Name	...	...	...	...	...	...	...	35 Revels Princess Pearl.	36 Cromarby Brimstage.
Born	...	...	...	...	...	...	...	Aug. 20, 1933, 1,088	Sept. 17, 1932, 1,496
Live weight, in lbs.	...	...	...	...	...	...	...	Aug. 13, 68	Sept. 18, 32
Last Calved	...	...	...	...	...	...	...
Days since Calving	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	...	...	...	...	...	...	...	19-1 20-3 19-7	24-7 24-0 22-9
	...	...	...	...	...	...	...	19-0 20-4 18-7	22-4 18-9 14-3
Total	...	...	...	...	...	...	...	38-1 40-7 38-4	47-1 42-9 37-2
Average	...	...	...	...	...	...	...	19-05 20-35 19-2	23-55 21-45 18-6
Percentage { Fat	...	...	...	...	...	...	...	3-04 4-87 4-62	3-21 3-92 3-77
Composition of { Solids other than Fat	...	...	...	...	...	...	...	9-00 8-91 8-86	8-51 8-74 8-06
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	12-09 13-72 13-48	12-38 12-06 12-86
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	1-751 1-691 0-887	1-736 1-684 1-701
Points	...	...	...	...	...	...	...	1-71 1-81 1-70	2-11 1-87 1-69
For weight of Milk (lbs.)	...	...	...	...	...	...	...	58-60	63-60
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	52-53	45-96
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	20-88	22-68
Total Points for Milk	...	...	...	...	...	...	...	132-06	132-24
Deductions	...	...	...	...	...	...	...	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	132-06	132-24
Points for time since Calving	...	...	...	...	...	...	...	2-8	—
TOTAL POINTS GAINED	...	...	...	...	...	...	...	134-86	132-24
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	121-38	88-40
Points for time since Calving	...	...	...	...	...	...	...	2-8	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	124-18	88-40
Remarks and Awards	...	...	...	...	...	...	...	5th Prize.	6th Prize.

CLASS 3.—DAIRY SHORTHORN HEIFER, ENTERED IN OR ELIGIBLE FOR COATES' HERD BOOK. BORN ON OR AFTER 1ST AUGUST, 1934, AND HAVING PRODUCED ONLY ONE CALF.

Number Name ...	38 Pearl's Gift.	39 Slisoe Matchless Maid.	44 Greattew Sophie 5th.	48 Chalfeld Jilt 20th.
Born ...	Jan. 28, 1935. 1,201	June 2, 1935. 688	Oct. 24, 1934. 1,204	Oct. 24, 1934. 1,066
Live weight, in lbs. ...	Sept. 29. 21	Sept. 8. 42	Aug. 28. 58	Sept. 23. 27
Last calving ...				
Days since Calving ...				
Weight of Milk, 1st day	Morn. 12-9 Aft. 11-6 Even. 12-3	Morn. 13-0 Aft. 11-7 Even. 12-0	Morn. 14-6 Aft. 14-5 Even. 16-2	Morn. 15-2 Aft. 15-7 Even. 17-5
Weight of Milk, 2nd day	12-7 14-2 13-6	11-7 12-1 12-2	14-5 15-6 14-4	17-2 19-1 18-4
Total	25-6 25-8 25-9	24-7 23-8 24-2	29-1 30-1 30-6	32-4 34-8 35-9
Average	12-8 12-9 12-95	12-35 11-9 12-1	14-55 15-05 15-3	16-2 17-4 17-95
Percentage Fat	5-90 9-12 8-87	3-77 9-19 8-98	3-02 9-34 9-27	2-77 3-20 3-47
Composition of Solids other than Fat	15-02 14-70 13-84	12-96 12-72 13-12	12-36 13-16 13-62	8-50 8-42 8-47
Actual weight of Total Solids	0-755 0-752 0-667	0-466 0-445 0-467	0-439 0-585 0-710	0-449 0-557 0-623
Actual weight of Fat, in lbs.	1-17 1-14 1-13	1-13 1-07 1-12	1-36 1-40 1-37	1-38 1-47 1-52
Points—				
For weight of Milk (lbs.)	38-65	36-35	44-90	51-55
For weight of Fat (lbs. × 20)	43-48	27-56	34-68	32-58
For weight of Solids other than Fat (lbs. × 4)	13-76	13-28	16-52	17-48
Total Points for Milk	95-89	77-19	96-10	101-61
Deductions ...		—	—	30-0
TOTAL POINTS GAINED FOR MILK	95-89	77-19	96-10	71-61
Points for time since Calving	—	0-2	1-3	—
TOTAL POINTS GAINED	95-89	77-39	97-40	71-61
Points gained for Milk per 1,000 lbs. live weight	79-84	82-29	70-82	67-18
Points for time since Calving	—	0-2	1-3	—
Total Points per 1,000 lbs. live weight	79-84	82-49	81-12	67-18
Remarks and Awards	4th Prize	6th Prize	3rd Prize.	

CLASS 3.—DAIRY SHORTHORN HEIFER (BORN ON OR AFTER 1ST AUGUST, 1934)—Continued.

Number Name	...	...	...	...	50 Copsale Johnny 5th. Sept. 14, 1934. 1,098. Aug. 13, 62	52 Histon Royal Duchess 6th. Jan. 17, 1935. 1,077. Sept. 7, 43	58 Aldenharn Kirkclevington 20th. Feb. 1, 1935. 1,314 Sept. 18, 32	61 Huxham Duchess Rose 9th. Dec. 27, 1934. 1,180 Sept. 16, 34
Born	...	...	...	...	...	...	...	...
Live weight, in lbs.	...	...	...	...	...	...	...	...
Last Calved	...	...	...	...	...	...	...	...
Days since Calving	...	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	Morn. 17-8 Aft. 17-5 Even. 18-6	Morn. 12-9 Aft. 12-5 Even. 13-6	Morn. 16-8 Aft. 17-7 Even. 19-2	Morn. 16-7 Aft. 18-2 Even. 17-3
Weight of Milk, 2nd day	...	...	...	...	17-7 18-1	14-8 14-0 13-6	16-9 17-2 16-9	17-2 17-3 15-9
Total	...	...	...	...	35-6 36-7	27-7 26-5 27-2	33-7 34-9 36-1	33-9 35-5 33-2
Average	...	...	...	...	17-8 17-8	13-85 13-25 13-6	16-85 17-45 18-05	16-95 17-75 16-6
Percentage (Fat	...	...	...	...	3-67 4-04	3-40 2-64	3-60 2-92	3-12 3-31
Composition of Solids other than Fat	...	...	...	...	8-65 8-74	8-73 8-78	8-77 8-52	9-38 9-53
the Milk Total Solids	...	...	...	...	12-32 12-78	12-22 11-48	11-86 11-41	12-74 12-74
Actual weight of Fat, in lbs.	...	...	...	...	0-653 0-719	0-458 0-350	0-521 0-380	0-558 0-558
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	1-54 1-56	1-21 1-16	1-48 1-40	1-62 1-67
Points—	...	...	...	...	53-95 40-28	40-70 24-38	52-35 31-66	51-30 33-40
For weight of Milk (lbs. \times 2)	...	...	...	...	108-2 80-6	81-4 48-8	104-7 63-3	102-6 66-8
For weight of Fat (lbs. \times 4)	...	...	...	...	25-2 18-54	16-8 11-24	20-8 15-04	20-3 13-56
Total Points for Milk...	...	...	...	...	113-07	79-32	102-05	104-32
Deductions	...	...	...	...	—	29-0	10-0	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	113-07	50-32	92-05	104-32
Points for time since Calving	...	...	...	...	2-2	0-3	—	—
TOTAL POINTS GAINED	...	...	...	...	115-27	50-62	92-05	104-32
Points gained for Milk per 1,000 lbs. live weight...	...	...	...	...	102-08	55-08	70-05	88-41
Points for time since Calving	...	...	...	...	2-2	0-3	—	—
Total Points per 1,000 lbs. live weight	...	...	...	...	105-18	55-38	70-05	88-41
Remarks and Awards	...	...	...	...	1st Prize.	...	5th Prize.	2nd Prize.

CLASS 4.—DAIRY SHORTHORN COW, NOT ELIGIBLE FOR CLASSES 1 OR 2. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 8,000 LBS. AT FIVE YEARS OLD OR OVER, OR 6,000 LBS. AT UNDER FIVE YEARS OLD DURING A LACTATION PERIOD OF 45 WEEKS, RECORDED BY A RECOGNISED MILK RECORDING SOCIETY.

Number Name ...	...	...	...	...	...	63 Cantab. Flora 6th.	64 Mary.	70 Betty.	72 Pretty Lass.
Born ...	...	...	...	...	...	Oct. 21, 1931. 1,506	Dec. 1931. 1,380	1931. 1,256	Unknown. 1,091
Live weight, in lbs. ...	...	...	...	...	...	Sept. 6. 44	Aug. 24. 57	Oct. 3. 17	Sept. 14. 36
Last Calved ...	...	...	...	...	...	...	...	...	...
Days since Calving ...	...	...	...	...	...	...	...	...	...
Weight of Milk, 1st day ...	...	...	...	...	...	Morn. Aft. Even. 22.1 23.1 21.6	Morn. Aft. Even. 24.6 24.5 24.4	Morn. Aft. Even. 12.4 12.0 11.5	Morn. Aft. Even. 19.1 21.8 20.7
Weight of Milk, 2nd day ...	...	...	...	...	...	20.0 23.6 23.3	25.0 25.2 24.6	10.4 Absent.	20.1 18.6 19.9
Total ...	...	...	...	...	...	42.1 46.7 44.9	49.6 49.7 49.0	22.8 — —	39.2 40.4 40.6
Average ...	...	...	...	...	...	21.05 23.35 22.45	24.8 24.85 24.5	11.4 12.0 11.5	19.6 20.2 20.3
Percentage { Composition of the Milk { Solids other than Fat ...	...	...	...	...	...	4.62 4.32 4.31	3.29 3.63 3.09	4.28 4.74 4.55	3.64 4.07 4.75
Actual weight of Fat, in lbs. ...	...	...	...	...	...	0.36 8.82 9.19	8.85 8.60 8.95	9.04 8.66 8.57	8.64 8.77 8.89
Actual weight of Solids other than Fat, in lbs. ...	...	...	...	...	...	13.98 13.14 13.50	12.14 12.32 12.04	13.32 13.40 13.12	12.28 12.84 13.64
Points— For weight of Milk (lbs.) ...	...	...	...	...	...	0.973 1.009 0.968	0.816 0.902 0.757	— — —	0.713 0.822 0.964
For weight of Fat (lbs. × 20) ...	...	...	...	...	...	1.97 2.06 2.06	2.19 2.16 2.19	— — —	1.69 1.77 1.80
For weight of Solids other than Fat (lbs. × 4) ...	...	...	...	...	...	66.85 59.09 24.36	74.15 49.50 26.16	— — —	60.10 49.98 21.04
Total Points for Milk ...	...	...	...	...	...	150.21	149.81	— — —	131.12
Deductions ...	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK ...	...	...	...	...	...	150.21	149.81	Milk Yields not completed, Cow removed under Foot and Mouth Disease Regulations.	131.12
Points for time since Calving ...	...	...	...	...	...	0.4	1.7	—	—
TOTAL POINTS GAINED ...	...	...	...	...	...	150.61	151.51	—	131.12
Points gained for Milk per 1,000 lbs. live weight ...	...	...	...	...	...	99.74	107.08	—	120.18
Points for time since Calving ...	...	...	...	...	...	0.4	1.7	—	—
Total Points per 1,000 lbs. live weight ...	...	...	...	...	...	100.14	108.78	—	120.18
Remarks and Awards ...	...	...	...	...	...	2nd Prize.	1st Prize.	—	3rd Prize.

CLASS 5.—DAIRY SHORTHORN HEIFER. BORN ON OR AFTER 1ST AUGUST, 1934, AND HAVING PRODUCED ONLY ONE CALF. NOT SHOWING MORE THAN FOUR BROAD TEETH OR AS EVIDENCE OF AGE THE EAR-MARK NUMBER AFFIXED BY THE RECORDING SOCIETY UNDER THE MINISTRY OF AGRICULTURE'S Calf-Marking Scheme will be recognised. NOT ELIGIBLE FOR CLASS 3.

Number Name	75 Ruth.	76 Duchess.	77 Milkmaid.	78 Mathers Bella 10th.
Born	Jan. 2, 1935.	Unknown.	Unknown.	Oct. 12, 1934.
Live weight, in lbs.	1,075	1,086	938	1,175
Last Calved	Oct. 2,	Sept. 25,	Oct. 1,	Sept. 21,
Days since Calving	18	25	16	29
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	10-5 10-5 11-0	17-0 17-2 15-9	11-7 11-8 11-7	15-1 15-1 14-8
Total	10-9 10-3 12-1	16-6 16-7 16-4	11-4 11-0 11-8	14-6 13-5 14-1
Average	21-4 20-8 23-1	33-6 33-9 32-3	23-1 22-8 23-5	20-7 23-6 23-9
Percentage (Fat	10-7 10-4 11-55	16-8 16-95 16-15	11-55 11-4 11-75	14-85 14-3 14-45
Composition of Solids other than Fat	5-13 5-20 4-26	3-23 3-53 3-56	5-03 4-97 3-94	4-48 4-74 3-92
the Milk { Total Solids	9-47 9-28 9-34	9-09 9-19 9-32	9-10 9-03 9-28	9-20 9-16 9-12
Actual weight of Fat, in lbs.	14-60 14-48 13-60	12-32 12-72 12-88	14-22 14-02 13-22	13-08 13-40 13-04
Actual weight of Solids other than Fat, in lbs.	0-549 0-541 0-492	0-543 0-598 0-575	0-581 0-587 0-463	0-605 0-678 0-566
Points—	1-61 0-97 1-08	1-53 1-36 1-51	1-06 1-03 1-00	1-37 1-31 1-32
For weight of Milk (lbs.)	32-65	40-90	34-70	43-60
For weight of Fat (lbs. $\times 20$)	31-64	34-32	32-22	38-18
For weight of Solids other than Fat (lbs. $\times 4$)	12-24	18-14	12-72	16-00
Total Points for Milk...	76-53	102-62	79-64	97-78
Deductions ...	—	—	—	—
TOTAL POINTS GAINED FOR MILK ...	76-53	102-62	79-64	97-78
Points for time since Calving	—	—	—	—
TOTAL POINTS GAINED	76-53	102-62	79-64	97-78
Points gained for Milk per 1,000 lbs. live weight...	71-19	94-49	84-90	83-22
Points for time since Calving ...	—	—	—	—
Total Points per 1,000 lbs. live weight	71-19	94-49	84-90	83-22
Remarks and Awards	...	1st Prize.	3rd Prize.	2nd Prize.

CLASS 7.—LINCOLNSHIRE RED SHORTHORN HEIFER, ENTERED IN OR ELIGIBLE FOR THE HERD BOOK. BORN ON OR AFTER 1ST AUGUST, 1934, AND HAVING PRODUCED ONLY ONE CALF.

7

Number NAME ...	...	...	...	...	86 Bondish Charm 24th.	87 Histon Paragon 4th.	80 Burton Venus 17th.	90 Burton Ruby Spot 35th.
Born ...	...	...	...	...	Aug. 26, 1934. 1,136	Jan. 23, 1935. 1,114	Jan. 20, 1935. 982	Nov. 27, 1934. 1,106
Live weight, in lbs. ...	...	...	...	...	Sept. 20. 21	Aug. 27. 54	Aug. 24. 57	Sept. 20. 80
Last Calved ...	...	...	...	...	...	...	...	...
Days since Calving ...	...	...	...	...	...	...	...	...
Weight of Milk, 1st day ...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day ...	...	...	...	...	15.2 14.9 15.1	12.8 12.9 13.0	23.5 19.2 18.7	18.7 17.8 17.6
Weight of Milk, 3rd day ...	...	...	...	...	13.4 15.1 14.7	11.0 13.3 12.7	16.3 18.3 18.9	15.4 16.7 17.4
Total ...	...	...	...	...	28.6 30.0 29.8	23.8 26.2 25.7	39.8 37.5 37.6	34.1 34.5 35.0
Average ...	...	...	...	...	14.3 15.0 14.9	11.90 13.1 12.85	19.9 18.75 18.8	17.05 17.25 17.5
Percentage of Fat ...	...	...	...	...	4.23 4.24 4.04	3.47 4.01 4.28	3.01 4.02 4.26	3.54 3.77 4.06
Composition of Milk ...	...	...	...	...	9.03 9.06 9.80	9.55 9.80 9.42	9.05 8.86 9.04	8.86 8.81 9.00
Actual weight of Fat, in lbs. ...	...	...	...	...	13.26 13.30 13.34	13.02 13.40 13.70	12.96 12.88 13.30	12.40 12.58 13.00
Actual weight of Solids other than Fat, in lbs. ...	...	...	...	...	0.605 0.630 0.602	0.413 0.525 0.550	0.778 0.754 0.801	0.604 0.650 0.711
Foaling— For weight of Milk (lbs.) ... For weight of Fat (lbs. × 20) ... For weight of Solids other than Fat (lbs. × 4) ...	...	...	...	...	1.29 1.36 1.39	1.14 1.23 1.21	1.80 1.66 1.70	1.51 1.52 1.58
Total Points for Milk ...	...	...	...	...	44.20	37.85	57.45	51.80
Deductions ...	...	...	...	...	36.86	29.76	46.66	30.30
TOTAL POINTS GAINED FOR MILK ...	...	...	...	...	10.16	14.82	20.64	18.44
Points for time since Calving ...	...	...	...	...	97.22	81.93	124.75	100.54
TOTAL POINTS GAINED ...	...	...	...	...	—	—	—	—
Points gained for Milk per 1,000 lbs. live weight ...	...	...	...	...	97.22	83.33	126.45	109.54
Points for time since Calving ...	...	...	...	...	85.58	73.55	127.04	99.04
Total Points per 1,000 lbs. live weight ...	...	...	...	...	—	1.4	1.7	—
Remarks and Awards ...	...	...	...	...	85.58	74.95	128.74	99.04
	...	...	...	...	3rd Prize.	4th Prize.	1st Prize.	2nd Prize.

CLASS 8.—BRITISH FRIESIAN COW, ENTERED IN OR ACCEPTED FOR THE HERD BOOK OR THE SUPPLEMENTARY REGISTER. BORN ON OR PREVIOUS TO 1ST AUGUST, 1932. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 8,000 LBS. AT FIVE YEARS OLD OR OVER, OR 6,000 LBS. AT UNDER FIVE YEARS OLD EITHER DURING A LACTATION PERIOD OF 45 WEEKS OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

Number Name	94 Terling Torch 66th.	100 Lavenham Annie 29th.	101 Lavenham Trifidulum 6th.	102 Lavenham Unique 8th.
Born	Mar. 5, 1932. 1,558	Oct. 20, 1930. 1,487	Sept. 14, 1931. 1,324	July 10, 1930. 1,037
Live weight, in lbs.	Sept. 26, 24	Sept. 27, 23	Sept. 23, 27	Sept. 10, 40
Last Calved	...	...	...	...
Days since Calving	...	...	...	...
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	28-0 23-2 23-7	27-0 27-3 26-1	28-0 28-7 27-4	31-1 31-0 30-9
Total	52-0 46-3 45-0	54-0 56-3 53-4	57-0 54-9 55-8	92-2 61-6 62-1
Average	26-0 23-15 22-95	27-0 28-15 26-7	28-8 27-45 27-0	31-1 30-8 31-05
Percentage { Fat	4-45 4-83 3-83	4-12 5-20 3-22	4-85 4-02 3-00	4-12 3-82 3-16
Composition of { Solids other than Fat	9-27 9-15 9-15	9-32 9-37 9-58	8-94 8-73 8-74	8-74 8-54 8-64
the Milk { Total Solids	13-72 13-98 12-98	13-44 14-66 12-60	13-78 13-81 12-73	12-86 12-36 11-80
Actual weight of Fat, in lbs.	1-157 1-118 0-879	1-112 1-480 0-860	1-381 1-113 1-113	1-281 1-177 0-981
Actual weight of Solids other than Fat, in lbs.	2-41 2-12 2-10	2-32 2-64 2-30	2-31 2-45 2-44	2-72 2-63 2-68
Points—	72-16 63-08 26-52	81-85 69-22 30-64	77-32 29-60	92-05 68-78 32-12
For weight of Milk (lbs.)	...	...	...	...
For weight of Fat (lbs. $\times 20$)	...	...	...	...
For weight of Solids other than Fat (lbs. $\times 4$)	...	...	...	...
Total Points for Milk...	161-70	181-71	190-97	163-85
Deductions ...	...	...	...	...
TOTAL POINTS GAINED FOR MILK ...	161-70	181-71	190-97	163-85
Points for time since Calving	...	...	...	...
TOTAL POINTS GAINED	161-70	181-71	190-97	163-85
Points gained for Milk per 1,000 lbs. live weight...	128-54	122-20	144-24	118-42
Points for time since Calving ...	...	...	...	...
Total Points per 1,000 lbs. live weight	128-54	122-20	144-24	118-42
Remarks and Awards	Highly Commended.	6th Prize.	2nd Prize.	1st Prize.

CLASS 8.—BRITISH FRIESIAN COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1932)—Continued.

Number Name ...	104 Fintloch Goodhuck, 1,455 Mar. 23, 1932, July 18, 94	108 Codbury Nain 2nd, 1,553 July 10, 1929, Sept. 11, 39	109 Winchester Stella, 1,004 Oct. 17, 1930, Sept. 21, 29	110 Winchester Beatrice, 1,477 Oct. 18, 1929, Sept. 21, 29
Born ...	...	...	...	...
Live weight, in lbs. ...	...	...	...	...
Last Calved ...	...	...	...	...
Days since Calving ...	...	...	...	...
Weight of Milk, 1st day ...	Morn. 32.0 Aft. 27.1 Even. 31.4	Morn. 27.1 Aft. 30.5 Even. 26.6	Morn. 26.7 Aft. 29.9 Even. 27.6	Morn. 23.2 Aft. 25.1 Even. 24.7
Weight of Milk, 2nd day ...	26.9	27.2	28.9	23.4
Total ...	58.9	57.6	55.6	48.6
Average ...	29.45	28.8	27.8	24.3
Percentage { Fat ...	...	...	...	...
Composition of { Solids other than Fat ...	...	...	...	...
the Milk { Total Solids ...	...	...	...	...
Actual weight of Fat, in lbs. ...	13.04	12.68	13.92	9.36
Actual weight of Solids other than Fat, in lbs. ...	1.11	1.164	2.34	13.48
Points—	2.43	2.49	2.48	1.001
For weight of Milk (lbs.) ...	81.05	81.05	80.00	70.30
For weight of Fat (lbs. × 20) ...	60.46	60.46	68.38	53.24
For weight of Solids other than Fat (lbs. × 4) ...	28.46	28.46	30.00	28.32
Total Points for Milk ...	170.30	170.30	184.38	159.86
Deductions ...	—	—	—	—
TOTAL POINTS GAINED FOR MILK ...	170.30	170.30	184.38	159.86
Points for time since Calving ...	—	—	—	—
TOTAL POINTS GAINED ...	170.30	170.30	184.38	159.86
Points gained for Milk per 1,000 lbs. live weight ...	125.43	125.43	115.07	108.23
Points for time since Calving ...	—	—	—	—
Total Points per 1,000 lbs. live weight ...	125.43	125.43	115.07	108.23
Remarks and Awards ...	Disqualified.	Reserve.	4th Prize.	Highly Commended.

CLASS 8.—BRITISH FRIESIAN COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1932)—Continued.

Number Name	...	...	...	...	...	111 Winchester Meden.	112 Hurdlesgrove Pel Julia.	114 Hurdlesgrove Pel Betty 2nd.
Born ...	...	...	...	...	...	Aug. 1, 1931. 1408	Feb. 4, 1928. 1,256	Oct. 31, 1931. 1,252
Live weight, in lbs. ...	...	...	...	...	...	Sept. 13. 37	Sept. 21. 29	Sept. 28. 22
Last Calved ...	...	...	...	...	...
Days since Calving	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	...	...	...	...	...	21.0 25.0 24.8	26.0 24.0 25.3	30.0 29.7 29.0
	...	...	...	...	...	25.3 25.2 23.3	25.9 24.7 24.8	27.6 30.3 29.9
Total	...	...	...	...	...	50.2 50.2 48.1	51.9 48.7 50.1	57.6 60.0 58.9
Average	...	...	...	...	...	25.1 25.1 24.05	25.95 24.35 25.05	28.8 30.0 29.45
Percentage of Fat	...	...	...	...	...	3.32 3.27 4.03	3.45 2.03 2.93	4.06 3.69 3.83
Composition of Solids other than Fat	...	...	...	...	...	8.40 8.40 9.25	9.13 9.14 9.15	8.96 8.03 8.63
the Milk	...	...	...	...	...	12.42 12.26 13.23	12.58 11.80 12.08	13.02 12.34 12.46
Actual weight of Fat, in lbs.	...	...	...	...	...	0.833 0.821 0.909	0.805 0.648 0.734	1.169 1.107 1.128
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	2.56 2.26 2.22	2.37 2.23 2.29	2.58 2.60 2.54
Points—	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	74.25	75.35	88.25
For weight of Fat (lbs. × 20)	...	...	...	...	...	52.46	45.51	68.08
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	27.56	27.56	30.88
Total Points for Milk...	...	...	...	...	...	154.07	148.45	187.21
Deductions ...	...	...	...	...	...	—	20.0	—
TOTAL POINTS GAINED FOR MILK ...	...	...	...	...	...	154.07	128.45	187.21
Points for time since Calving	...	...	...	...	...	—	—	—
TOTAL POINTS GAINED	...	...	...	...	...	154.07	128.45	187.21
Points gained for Milk per 1,000 lbs. live weight...	...	...	...	...	...	109.42	102.27	149.33
Points for time since Calving	...	...	...	...	...	—	—	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	109.42	102.27	149.33
Remarks and Awards	...	...	...	...	...	Highly Commended.	Highly Commended.	3rd Prize.

CLASS 9.—BRITISH FRIESIAN COW, ENTERED IN OR ACCEPTED FOR HERD BOOK OR THE SUPPLEMENTARY REGISTER. BORN AFTER 1ST AUGUST, 1932, AND PREVIOUS TO 1ST AUGUST, 1934.

Number Name	125 Abingworth Ilene.	126 Piddington Alice.	127 Oakham Delany Gem.	129 Fintloch Hilary.
Born ...	Jan. 2, 1933. 1,335	June 30, 1934. 1,306	Oct. 2, 1932. 1,529	July 26, 1933. 1,264
Live weight, in lbs. ...	Sept. 25. 22	Sept. 20. 30	Sept. 21. 29	Oct. 1. 19
Last Calved ...	...	...	...	...
Days since Calving	...	...	...	...
Weight of Milk, 1st day	Morn. 27.5 Aft. 30.6 Even. 30.1	Morn. 22.8 Aft. 22.1 Even. 23.6	Morn. 28.2 Aft. 30.1 Even. 29.8	Morn. 21.6 Aft. 21.9 Even. 21.8
Weight of Milk, 2nd day	29.4	27.5	30.2	20.8
Total	56.9	57.6	59.0	42.7
Average	28.45	28.8	29.5	21.35
Percentage { Fat ... Composition of { Solids other than Fat ... the Milk { Total Solids ... Actual weight of Fat, in lbs. ... Actual weight of Solids other than Fat, in lbs. ... Points—	2.49 8.69 11.18 9.70s 2.47	4.29 8.01 13.29 1.229 2.55	4.57 8.57 13.12 1.300 2.45	4.00 8.24 13.24 0.868 2.61
For weight of Milk (lbs.)	85.90	67.10	88.25	65.25
For weight of Fat (lbs. × 20)	59.02	56.70	73.84	52.40
For weight of Solids other than Fat (lbs. × 4)	29.58	24.28	39.88	23.88
Total Points for Milk...	174.89	148.08	193.07	141.63
Deductions ...	10.0	—	—	—
TOTAL POINTS GAINED FOR MILK ...	164.89	148.08	193.07	141.63
Points for time since Calving	—	—	—	—
TOTAL POINTS GAINED	164.89	148.08	193.07	141.63
Points gained for Milk per 1,000 lbs. live weight...	121.62	106.07	126.27	112.05
Points for time since Calving	—	—	—	—
Total Points per 1,000 lbs. live weight	121.62	106.07	126.27	112.05
Remarks and Awards	4th Prize.	6th Prize.	1st Prize.	Reserve.

CLASS 9.—BRITISH FRIESIAN COW (BORN AFTER 1ST AUGUST, 1932, AND PREVIOUS TO 1ST AUGUST, 1934)—Continued.

Number Name ...	...	...	...	...	...	182		135		137	
						Herrington Maureen.		Kenton Tigress 2nd.		Middlewich Sylvia.	
Born ...	...	...	...	...	...	Nov. 5, 1932.		June 6, 1934.		Jan. 5, 1934.	
Live weight, in lbs. ...	...	...	...	...	...	1,496		1,374		1,322	
Last Calved ...	...	...	...	...	...	Sept. 22.		Sept. 20.		Sept. 20.	
Days since Calving ...	...	...	...	...	...	23		21		30	
Weight of Milk, 1st day	...	...	...	...	...	Morn.	Aft.	Morn.	Aft.	Morn.	Even.
Weight of Milk, 2nd day	...	...	...	...	...	29.4	25.8	22.1	22.0	30.4	28.4
Total	...	...	...	...	...	26.0	25.3	21.6	23.1	26.5	25.9
Average	...	...	...	...	...	55.4	51.1	43.7	45.1	56.9	54.3
Percentage { Fat	...	...	...	...	...	27.7	26.25	21.85	22.55	28.45	27.15
Composition of { Solids other than Fat	...	...	...	...	...	4.06	4.17	4.07	4.55	3.54	3.55
The Milk { Total Solids	...	...	...	...	...	8.72	8.61	9.35	9.27	9.42	9.25
Actual weight of Fat, in lbs.	...	...	...	...	...	12.78	12.78	13.42	13.82	12.06	12.80
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	1.125	1.095	0.889	1.026	1.007	0.904
Points	...	...	...	...	...	2.42	2.26	2.04	2.09	2.68	2.51
For weight of Milk (lbs.)	...	...	...	...	...	70.50		65.95		85.60	
For weight of Fat (lbs. × 20)	...	...	...	...	...	62.14		60.16		65.28	
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	27.64		24.68		31.64	
Total Points for Milk	...	...	...	...	...	169.23		150.79		182.52	
Deductions	...	...	...	...	...	—		—		—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	169.23		150.79		182.52	
Points for time since Calving	...	...	...	...	...	—		—		—
TOTAL POINTS GAINED	...	...	...	...	...	169.23		150.79		182.52	
Points gained for Milk per 1,000 lbs. live weight...	...	...	...	...	...	113.16		109.75		138.06	
Points for time since Calving	...	...	...	...	...	—		—		—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	113.16		109.75		138.06	
Remarks and Awards	...	...	...	...	...	3rd Prize.		5th Prize.		2nd Prize.	

CLASS 10.—BRITISH FRIESIAN HEIFER, ENTERED IN OR ELIGIBLE FOR THE HERD BOOK OR THE SUPPLEMENTARY REGISTER. BORN ON OR AFTER 1ST AUGUST, 1934, AND HAVING PRODUCED ONLY ONE CALF.

Number Name	141 Barvyke Butterfly.	143 Oakham Freda.	146 Egham Baby.	148 Egham Eva 3rd.
Born	March 8, 1935.	Sept. 29, 1934.	Aug. 26, 1934.	Dec. 20, 1934.
Live weight, in lbs.	1,257	1,163	1,350	1,221
Last Calved	Oct. 2.	Sept. 25.	Sept. 18.	Sept. 11.
Days since Calving	18	25	32	39
Weight of Milk, 1st day	Morn. 20.8 Even. 21.2	Morn. 18.7 Aft. 19.4 Even. 21.4	Morn. 13.3 Aft. 15.0 Even. 15.5	Morn. 17.1 Aft. 17.0 Even. 18.2
Weight of Milk, 2nd day	Morn. 21.2 Even. 21.1	Morn. 19.3 Aft. 22.5 Even. 21.1	Morn. 13.0 Aft. 17.3 Even. Absent	Morn. 17.8 Aft. 18.4 Even. Absent
Total	38.9	41.3	28.3	35.4
Average	19.45	20.65	14.45	17.45
Percentage of Fat	4.55	4.20	3.43	3.23
Composition of Solids other than Fat	8.49	8.34	9.02	8.83
the Milk { Total Solids	12.05	12.54	12.86	12.68
Actual weight of Fat, in lbs.	0.891	0.867	0.838	0.742
Actual weight of Solids other than Fat, in lbs.	1.03	1.72	1.86	1.01
Points—				
For weight of Milk (lbs.)	61.25	61.20	—	—
For weight of Fat (lbs. $\times 20$)	52.04	47.34	—	—
For weight of Solids other than Fat (lbs. $\times 4$)	20.60	21.92	—	—
Total Points for Milk	133.89	130.46	—	—
Deductions	20.00	—	—	—
TOTAL POINTS GAINED FOR MILK	113.89	130.46	—	—
Points for time since Calving	—	—	—	—
TOTAL POINTS GAINED	113.89	130.46	—	—
Points gained for Milk per 1,000 lbs. live weight	140.69	112.18	—	—
Points for time since Calving	—	—	—	—
Total Points per 1,000 lbs. live weight	140.69	112.18	—	—
Remarks and Awards	3rd Prize.	1st Prize.	Milk yields not completed. Cow removed under Foot and Mouth Disease Regulations.	Milk yields not completed. Cow removed under Foot and Mouth Disease Regulations.

CLASS 10.—BRITISH FRIESIAN HEIFER (BORN ON OR AFTER 1ST AUGUST, 1934)—Continued.

Number Name ...	...	...	...	...	...	...	...	...	...	151 Fintloch Janette.	153 Fintloch Jennima.
Born ...	...	...	...	...	...	...	...	...	...	Mar. 1, 1935. 1,019	Feb. 16, 1935. 1,276
Live weight, in lbs. ...	...	...	...	...	...	...	...	...	...	Sept. 20.	Sept. 15. 35
Last Calved ...	...	...	...	...	...	...	...	...	...
Days since Calving ...	...	...	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	...	19-8 29-0 20-0	19-0 19-9 19-0
Total	...	...	...	...	...	...	...	...	...	19-0 18-7 18-6	20-0 19-5 21-7
Average	...	...	...	...	...	...	...	...	...	38-8 38-7 39-2	39-0 39-4 41-3
Percentage { Fat	...	...	...	...	...	...	...	...	...	19-4 19-35 19-6	19-5 19-7 20-65
Composition of { Solids other than Fat	...	...	...	...	...	...	...	...	...	3-98 3-13 2-93	3-40 3-58 3-48
the Milk. { Total Solids	...	...	...	...	...	...	...	...	...	9-54 9-11 9-33	9-54 9-52 9-26
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	...	...	12-92 12-24 12-25	12-94 12-90 12-74
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	...	0-656 0-666 0-574	0-663 0-705 0-719
Points	...	...	...	...	...	...	...	...	...	1-85 1-76 1-83	1-86 1-84 1-91
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	...	58-35	59-85
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	...	...	36-72	41-74
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	...	...	21-76	22-44
Total Points for Milk	...	...	...	...	...	...	...	...	...	110-83	124-03
Deductions	...	...	...	...	...	...	...	...	...	10-00	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	...	...	100-83	124-03
Points for time since Calving	...	...	...	...	...	...	...	...	...	—	—
TOTAL POINTS GAINED	...	...	...	...	...	...	...	...	...	100-83	124-03
Points gained for Milk per 1,000 lbs. live weight...	...	...	...	...	...	...	...	...	...	104-84	97-20
Points for time since Calving	...	...	...	...	...	...	...	...	...	—	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	104-84	97-20
Remarks and Awards	...	...	...	...	...	...	...	...	...	4th Prize.	2nd Prize.

CLASS 11.—SOUTH DEVON COW ENTERED IN OR ACCEPTED FOR THE HERD BOOK. BORN ON OR PREVIOUS TO 1ST AUGUST, 1932. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 7,500 LBS. AT FIVE YEARS OLD OR OVER, OR 5,600 LBS. AT UNDER FIVE YEARS OLD EITHER DURING A LACTATION PERIOD OF 45 WEEKS, OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

Number Name	...	...	...	...	...	...	...	...	...	155 Dorford Downs Milkmaid Lth.	158 Whiser Alma.
Born	...	...	...	...	...	...	...	...	...	April 13, 1930.	Mar. 10, 1931.
Live weight, in lbs.	...	...	...	...	...	...	...	...	...	1,551	1,373
Last Calved	...	...	...	...	...	...	...	...	...	July 17.	Sept. 13.
Days since Calving	...	...	...	...	...	...	...	...	...	95	37
Weight of Milk, 1st day	...	...	...	...	...	...	...	...	...	Morn. 17.5 Aft. 20.5 Even. 20.1	Morn. 18.2 Aft. 19.1 Even. 18.1
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	...	14.5 17.8 17.7	17.7 18.4 17.0
Total	...	...	...	...	...	...	...	...	...	32.0	35.9
Average	...	...	...	...	...	...	...	...	...	16.0	17.95
Percentage of Fat	...	...	...	...	...	...	...	...	...	4.03	5.04
Composition of Solids other than Fat	...	...	...	...	...	...	...	...	...	8.99	9.84
the Milk Total Solids	...	...	...	...	...	...	...	...	...	13.02	14.88
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	...	...	0.645	0.965
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	...	1.44	1.77
Pounds—	...	...	...	...	...	...	...	...	...	1.71	1.83
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	...	54.05	54.25
For weight of Fat (lbs. $\times 20$)	...	...	...	...	...	...	...	...	...	55.00	56.72
For weight of Solids other than Fat (lbs. $\times 4$)	...	...	...	...	...	...	...	...	...	1.46	21.08
Total Points for Milk	...	...	...	...	...	...	...	...	...	1—	132.05
Deductions	...	...	...	...	...	...	...	...	...	30.46	Milk Yield
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	...	...	—	Cow removed
Points for time since Calving	...	...	...	...	...	...	...	...	...	—	Foot at
TOTAL POINTS GAINED	...	...	...	...	...	...	...	...	...	10.46	132.05
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	82.74	96.18
Points for time since Calving	...	...	...	...	...	...	...	...	...	5.5	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	88.24	96.18
Remarks and Awards	...	...	...	...	...	...	...	...	...	1st Prize.	2nd Prize.

CLASS 12.—SOUTH DEVON COW, ENTERED IN OR ACCEPTED FOR THE HERD BOOK. BORN AFTER 1ST AUGUST, 1932, AND PREVIOUS TO 1ST AUGUST, 1934.

Number Name ...	...	...	...	...	...	...	...	...	...	160 Westerland Anne.	161 Winsor Alma 2nd.
Born ...	...	...	...	...	...	...	...	...	...	Dec. 14, 1933. 1,350 Sept. 8, 42	Sept. 20, 1933. 1,190 Aug. 19, 62
Live weight, in lbs. ...	...	...	...	...	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.
Last Calved ...	...	...	...	...	...	...	...	...	...	20-0 18-5 18-8	15-3 15-6 14-7
Days since Calving ...	...	...	...	...	...	...	...	...	...	18-9 17-7 17-2	15-0 14-8 14-0
Weight of Milk, 1st day	...	...	...	...	...	...	...	...	...	...	...
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	...	...	...	38-9 36-2 36-0	30-3 30-4 28-7
Average	...	...	...	...	...	...	...	...	...	19-45 18-1 18-0	15-15 15-2 14-35
Percentage { Fat ...	...	...	...	...	...	...	...	...	...	5-26 4-79 4-87	5-00 5-70 4-92
Composition of { Solids other than Fat ...	...	...	...	...	...	...	...	...	...	9-32 9-15 9-31	9-85 10-12 9-82
the Milk { Total Solids ...	...	...	...	...	...	...	...	...	...	14-58 13-94 14-38	14-97 15-82 14-71
Actual weight of Fat, in lbs. ...	...	...	...	...	...	...	...	...	...	1-023 0-867 0-877	0-771 0-866 0-706
Actual weight of Solids other than Fat, in lbs. ...	...	...	...	...	...	...	...	...	...	1-81 1-66 1-71	1-49 1-54 1-41
Points—	...	...	...	...	...	...	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	...	55-55	44-70
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	...	...	35-34	46-89
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	...	...	20-72	17-76
Total Points for Milk	...	...	...	...	...	...	...	...	...	131-61	109-32
Deductions ...	...	...	...	...	...	...	...	...	...	—	—
TOTAL POINTS GAINED FOR MILK ...	...	...	...	...	...	...	...	...	...	131-61	109-32
Points for time since Calving	...	...	...	...	...	...	...	...	...	0-2	2-2
TOTAL POINTS GAINED	...	...	...	...	...	...	...	...	...	131-81	111-52
Points gained for Milk per 1,000 lbs. live weight...	...	...	...	...	...	...	...	...	...	97-49	91-87
Points for time since Calving	...	...	...	...	...	...	...	...	...	0-2	2-2
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	97-69	94-07
Remarks and Awards	...	...	...	...	...	...	...	...	...	1st Prize.	2nd Prize.

CLASS 13.—SOUTH DEVON HEIFER, ENTERED IN OR ELIGIBLE FOR THE HERD BOOK. BORN ON OR AFTER 1ST AUGUST, 1934, AND HAVING PRODUCED ONLY ONE CALF.

Number Name	163 Dipford Downs Milkmaid 28th.	164 Sandwell Cowslip.	165 Ryton Milkmaid 11th.
	Jan 21, 1935. 1,180 Sept. 20. 30	Sept. 17, 1934. 1,290 Aug. 23. 58	Oct. 2, 1934. 1,425 Oct. 2. 18
Born
Live weight, in lbs.
Last Calved
Days since Calving
Weight of Milk, 1st day
Weight of Milk, 2nd day
Total
Average
Percentage { Fat
Composition of { Solids other than Fat
the Milk { Total Solids
Actual weight of Fat, in lbs.
Actual weight of Solids other than Fat, in lbs.
Points—
For weight of Milk (lbs.)
For weight of Fat (lbs. \times 20)
For weight of Solids other than Fat (lbs. \times 4)
Total Points for Milk
Deductions
TOTAL POINTS GAINED FOR MILK
Points for time since Calving
TOTAL POINTS GAINED
Points gained for Milk per 1,000 lbs. live weight...
Points for time since Calving
Total Points per 1,000 lbs. live weight
Remarks and Awards	1st Prize.	2nd Prize.	3rd Prize.

CLASS 15.—RED POLL COW, ENTERED IN OR ACCEPTED FOR THE HERD BOOK, BORN ON OR PREVIOUS TO 1ST AUGUST, 1932. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 8,000 LBS. AT FIVE YEARS OLD OR OVER, OR 6,000 LBS. AT UNDER FIVE YEARS OLD EITHER DURING A LACTATION PERIOD OF 45 WEEKS OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

Number Name ...	168 Morston Girl 14th.	169 Kirkton Sundial.	170 Kirkton Duplex.
Born ...	Feb 11, 1928. 1577 Sow 23. 27	Jan. 27, 1932. 1181 Aug. 22. 59	Feb. 19, 1930. 1201 Aug. 26. 55
Live weight, in lbs. ...	Morn. 26-1 Aft. 27-9 Even. 27-6	Morn. 28-5 Aft. 28-9 Even. 27-3	Morn. 16-4 Aft. 21-7 Even. 21-5
Last Calved ...	27-0	28-0	22-6
Days since Calving ...	53-1	57-0	39-0
Weight of Milk, 1st day	52-8	51-0	45-4
Weight of Milk, 2nd day	53-1	57-0	47-0
Total	26-55	28-25	19-5
Average	4-27	4-47	3-42
Percentage Composition of Milk	8-92	9-17	9-52
Solids other than Fat	12-58	13-14	12-68
Total Solids	9-06	1-263	0-667
Actual weight of Fat, in lbs.	2-35	2-59	1-86
Actual weight of Solids other than Fat, in lbs.	79-50	83-75	65-70
Points—	66-38	69-40	43-90
For weight of Milk (lbs.)	28-60	30-56	24-76
For weight of Fat (lbs. × 20)	174-48	183-71	134-36
For weight of Solids other than Fat (lbs. × 4)	174-48	183-71	134-36
Total Points for Milk	174-48	183-71	134-36
Deductions ...	—	—	—
TOTAL POINTS GAINED FOR MILK	174-48	183-71	134-36
Points for time since Calving	—	1-9	1-5
TOTAL POINTS GAINED	174-48	185-61	135-86
Points gained for Milk per 1,000 lbs. live weight...	110-64	155-55	111-87
Points for time since Calving	—	1-9	1-5
Total Points per 1,000 lbs. live weight	110-64	157-45	113-87
Remarks and Awards	2nd Prize.	1st Prize.	3rd Prize.

CLASS 15.—RED POLL COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1932)—Continued.

Number Name	...	...	...	...	...	...	...	...	...	172 Meddler Sparkle.	173 Latimer Primrose 3rd.
Born	...	...	...	...	...	...	...	...	...	Feb. 7, 1930. 1.231 Aug. 19, 62	July 29, 1929. 1.382 Sept. 27, 23
Live weight, in lbs.	...	...	...	...	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.
Last Calved	...	...	...	...	...	...	...	...	...	16.3 17.5 17.7	17.8 18.8 15.3
Days since Calving	...	...	...	...	...	...	...	...	...	17.7 14.6 13.8	16.5 15.8 15.6
Weight of Milk, 1st day	...	...	...	...	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	...	16.3 17.5 17.7	17.8 18.8 15.3
Total	...	...	...	...	...	...	...	...	...	34.0 32.1 31.5	34.3 34.6 30.9
Average	...	...	...	...	...	...	...	...	...	17.0 16.05 15.75	17.15 17.30 15.45
Percentage of Fat	...	...	...	...	...	...	...	...	...	4.25 4.11 4.42	4.01 5.20 4.83
Composition of Solids other than Fat	...	...	...	...	...	...	...	...	...	9.69 9.85 9.74	9.07 9.09 9.37
the Milk	...	...	...	...	...	...	...	...	...	13.04 13.96 14.16	13.08 14.38 14.20
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	...	...	0.723 0.660 0.696	0.688 0.915 0.746
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	...	1.65 1.58 1.53	1.56 1.57 1.45
Points—	...	...	...	...	...	...	...	...	...	48.80	49.90
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	...	41.58	46.98
For weight of Fat (lbs. $\times 20$)	...	...	...	...	...	...	...	...	...	19.04	18.32
For weight of Solids other than Fat (lbs. $\times 4$)	...	...	...	...	...	...	...	...	...	100.42	115.20
Total Points for Milk...	...	...	...	...	...	...	...	...	...	100.42	115.20
Deductions	...	...	...	...	...	...	...	...	...	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	...	...	100.42	115.20
Points for time since Calving	...	...	...	...	...	...	...	...	...	2.20	—
TOTAL POINTS GAINED	...	...	...	...	...	...	...	...	...	111.62	115.20
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	88.80	83.36
Points for time since Calving	...	...	...	...	...	...	...	...	...	2.2	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	91.00	83.36
Remarks and Awards	...	...	...	...	...	...	...	...	...	5th Prize.	4th Prize.

CLASS 16.—RED POLL COW, ENTERED IN OR ACCEPTED FOR THE HERD BOOK. BORN AFTER 1ST AUGUST, 1932, AND PREVIOUS TO 1ST AUGUST, 1934.

Number Name ...	179 Kirtton Oaken.	180 Kirtton Fantasy.	181 Kirtton Lilyrose.	184 Hallingbury Ruby 3rd.
Born ...	Nov. 5, 1932. 1,157 May 6, 1937	Aug. 15, 1932. 1,176 May 20, 1937	Feb. 18, 1934. 1,278 July 16, 1936	May 22, 1933. 1,157 July 16, 1936
Live weight, in lbs. ...	Morn. 11-2 Aft. 9-9 Even. 10-7	Morn. 16-7 Aft. 15-8 Even. 15-0	Morn. 16-3 Aft. 17-0 Even. 16-3	Morn. 12-1 Aft. 14-5 Even. 13-8
Lact. Cared ...	9-9 11-3 10-7	14-8 15-1 16-6	16-1 16-1 16-4	12-7 13-9 12-5
Days since Calving ...	19-7 22-5 20-6	31-5 30-9 31-6	32-4 33-1 32-7	24-8 28-4 26-3
Weight of Milk, 1st day ...	9-85	15-75	16-55	12-4
Weight of Milk, 2nd day ...	4-03	4-22	4-07	2-27
Total ...	8-79	8-01	8-14	3-15
Average ...	12-82	13-10	13-16	9-11
Percentage (Fat ...)	12-82	13-10	13-16	11-88
Composition of Solids other than Fat ...	0-397	0-665	0-580	0-281
the Milk ...	0-87	1-46	1-53	1-13
Total Solids ...	31-40	47-00	49-10	39-75
Actual weight of Fat, in lbs. ...	26-68	39-10	36-06	22-32
Actual weight of Solids other than Fat, in lbs. ...	10-88	17-84	17-88	14-80
Points—	68-96	103-94	103-04	76-87
For weight of Milk (lbs.) ...	—	—	—	20-0
For weight of Fat (lbs. × 20) ...	68-96	103-94	103-04	56-87
For weight of Solids other than Fat (lbs. × 4) ...	12-0	10-4	5-6	5-6
Total Points for Milk ...	80-96	114-34	109-24	62-47
Deductions ...	59-60	88-38	81-10	49-15
TOTAL POINTS GAINED ...	12-0	10-4	5-6	5-6
Points for time since Calving ...	71-60	98-78	86-70	54-75
TOTAL POINTS GAINED ...	—	—	—	—
Points gained for Milk per 1,000 lbs. live weight ...	—	—	—	—
Points for time since Calving ...	—	—	—	—
Total Points per 1,000 lbs. live weight ...	—	—	—	—
Remarks and Awards ...	1st Prize.	1st Prize.	2nd Prize.	—

CLASS 17.—RED POLL HEIFER, ENTERED IN OR ELIGIBLE FOR THE HERD BOOK. BORN ON OR AFTER 1ST AUGUST, 1934, AND HAVING PRODUCED ONLY ONE CALF.

Number Name	185 Coddham Nelly	186 Foxearth Clove.	187 Kirtan Faithless.	190 Mistley Peaceful.
Born	Nov. 10, 1934. 1235	Sept. 5, 1934. 1280	Aug. 23, 1934. 1082	Mar. 7, 1935. 1100
Live weight, in lbs.	1235	1280	1082	1100
Last Calved	Aug. 18, 63	Aug. 18, 63	Sept. 14, 36	Aug. 12, 60
Days since Calving ... ..	...	...	...	...
Weight of MILK, 1st day	Morn. 9-9 Aft. 11-1 Even. 10-1	Morn. 8-0 Aft. 9-1 Even. 9-3	Morn. 10-9 Aft. 10-7 Even. 9-0	Morn. 13-9 Aft. 14-8 Even. 14-3
Weight of MILK, 2nd day	10-9	9-1	10-5	14-3
Total	20-8	18-0	21-4	28-2
Average	10-4	9-0	10-7	14-1
Percentage of Fat	4-85	4-52	4-05	3-57
Composition of Milk { Solids other than Fat	9-75	9-28	9-03	9-21
Actual weight of Fat, in lbs.	14-60	13-80	13-68	12-78
Actual weight of Solids other than Fat, in lbs.	0-504	0-407	0-408	0-503
Points—	1-01	0-84	0-97	1-30
For weight of Milk (lbs.)	31-40	27-50	32-85	42-40
For weight of Fat (lbs. × 20)	32-56	25-20	26-56	31-44
For weight of Solids other than Fat (lbs. × 4)	11-96	10-32	12-20	15-44
Total Points for Milk	75-02	63-02	71-61	89-28
Deductions	—	—	—	—
TOTAL POINTS GAINED FOR MILK	75-02	63-02	71-61	89-28
Points for time since Calving	2-3	2-3	—	2-9
TOTAL POINTS GAINED	78-22	65-32	71-61	92-18
Points gained for Milk per 1,000 lbs. live weight	61-47	48-80	66-18	81-16
Points for time since Calving	2-3	2-3	—	2-9
Total Points per 1,000 lbs. live weight	63-77	51-19	66-18	84-06
Remarks and Awards	2nd Prize.		3rd Prize.	1st Prize.

CLASS 19.—AYRSHIRE COW, REGISTERED WITH A NUMBER IN THE HERD BOOK OR APPENDICES. BORN ON OR PREVIOUS TO 1ST AUGUST, 1932. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 8,000 LBS. AT FIVE YEARS OR OVER, OR 6,000 LBS. AT UNDER FIVE YEARS OLD EITHER DURING A LACTATION PERIOD OF 45 WEEKS, OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

Number	...	...	...	...	...	194 Compton Rosetta.	197 Lessnessock Lottie 2nd.	198 Cairnwell Brownie 2nd.	201 South Craig Miss Mabel.
Born ...	...	...	...	...	...	Sept. 16, 1930. 1,104 Sept. 18, 32	May 9, 1930. 1,264 Oct. 1, 19	Mar. 17, 1931. 1,163 Sept. 23, 27	Nov. 27, 1927. 1,266 Oct. 1, 19
Live weight, in lbs. ...	...	...	...	...	...	Morn. 27-8 Aft. 25-2 Even. 24-3	Morn. 21-4 Aft. 19-4 Even. 20-5	Morn. 22-5 Aft. 20-5 Even. 22-4	Morn. 20-1 Aft. 20-8 Even. 19-3
Last Calved ...	...	...	...	...	...	25-2	21-0	21-5	21-4
Days since Calving ...	...	...	...	...	...	53-0	43-0	44-0	41-5
Weight of Milk, 1st day ...	...	...	...	...	...	51-8	38-1	42-7	41-1
Weight of Milk, 2nd day ...	...	...	...	...	...	48-8	42-0	42-7	39-9
Total ...	...	...	...	...	...	25-9	19-05	21-35	20-55
Average ...	...	...	...	...	...	24-4	21-0	21-35	19-95
Percentage (Fat ...	...	...	...	...	...	3-60	4-84	4-27	5-58
Composition of Solids other than Fat ...	...	...	...	...	...	4-57	4-75	5-03	5-79
the Milk ...	...	...	...	...	...	9-10	9-38	9-13	9-34
Total Solids ...	...	...	...	...	...	12-70	14-22	14-31	14-02
Actual weight of Fat, in lbs. ...	...	...	...	...	...	13-76	14-24	14-70	15-14
Actual weight of Solids other than Fat, in lbs. ...	...	...	...	...	...	0-954	1-041	1-066	1-158
Points—	...	...	...	...	...	2-41	2-02	2-01	1-94
For weight of Milk (lbs.) ...	...	...	...	...	...	76-80	61-55	64-55	61-25
For weight of Fat (lbs. × 20) ...	...	...	...	...	...	58-96	61-40	64-10	69-06
For weight of Solids other than Fat (lbs. × 4) ...	...	...	...	...	...	28-00	23-36	23-68	23-00
Total Points for Milk ...	...	...	...	...	...	163-76	146-31	152-33	153-31
Deductions ...	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK ...	...	...	...	...	...	163-76	146-31	152-33	153-31
Points for time since Calving ...	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED ...	...	...	...	...	...	163-76	146-31	152-33	153-31
Points gained for Milk per 1,000 lbs. live weight ...	...	...	...	...	...	148-33	115-75	130-98	121-10
Points for time since Calving ...	...	...	...	...	...	—	—	—	—
Total Points per 1,000 lbs. live weight ...	...	...	...	...	...	148-33	115-75	130-98	121-10
Remarks and Awards ...	...	...	...	...	...	3rd Prize.	Highly Commended.	7th Prize.	6th Prize.

CLASS 19.—AYRSHIRE COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1932)—Continued.

Number Name	203 Garston Orange Blossom.	204 Elmhurst Khiva.	206 Relief Lady Grace 2nd.	208 Glenside Nancy.
Born	Nov. 12, 1931.	Jan. 1, 1932.	April 16, 1931.	Nov. 18, 1930.
Live weight, in lbs.	1,294	1,172	1,028	1,088
Last Calved	Sept. 28,	Sept. 22,	Sept. 19,	Aug. 28,
Days since Calving	22	28	31	53
Weight of Milk, 1st day	Morn. 20.0 Aft. 21.5 Even. 22.7	Morn. 23.3 Aft. 23.6 Even. 22.4	Morn. 20.2 Aft. 23.7 Even. 24.8	Morn. 19.4 Aft. 21.8 Even. 20.9
Weight of Milk, 2nd day	22.9 21.8	20.0 20.1	25.0 23.8	20.7 16.4
Total	43.8	43.5	47.5	38.2
Average	21.9	21.75	23.75	19.1
Percentage	5.08	4.41	4.03	3.27
Composition of Milk	9.62	10.45	9.32	9.09
Solids other than Fat	14.70	14.02	13.44	12.36
Total Solids	1.113	1.054	1.032	0.656
Actual weight of Fat, in lbs.	2.11	2.18	2.17	1.82
Actual weight of Solids other than Fat, in lbs.	65.45	63.40	73.70	59.80
Points.—	68.30	69.40	67.72	44.78
For weight of Milk (lbs.)	26.32	23.50	26.64	21.08
For weight of Fat (lbs. × 20)	100.57	159.36	168.06	120.26
For weight of Solids other than Fat (lbs. × 4)	100.57	159.36	168.06	120.26
Deductions	—	—	—	—
Total Points for Milk	100.57	159.36	168.06	120.26
Total Points GAINED FOR MILK	100.57	159.36	168.06	120.26
Points for time since Calving	—	—	—	1.3
TOTAL POINTS GAINED	160.57	159.36	168.06	121.56
Points gained for Milk per 1,000 lbs. live weight.	124.09	135.97	163.48	110.05
Points for time since Calving	—	—	—	1.3
Total Points per 1,000 lbs. live weight	124.09	135.97	163.48	111.35
Remarks and Awards	4th Prize.	5th Prize.	2nd Prize.	Highly Commended.

CLASS 19.—AYRSHIRE COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1932)—Continued.

Number Name ...	...	...	...	...	...	210 Barr Minknald.	211 Criffel Cherry 2nd.
Born ...	...	...	...	...	...	Nov. 14, 1928, 1927	Mar. 19, 1931, 1970
Live weight, in lbs. ...	...	...	...	...	...	Sept. 27, 23	Sept. 26, 24
Last Calved ...	...	...	...	...	...
Days since Calving ...	...	...	...	...	...
Weight of Milk, 1st day ...	...	...	...	...	...	Morn. Aft. Even. 24.5 25.3 25.5 26.1 25.9 24.6	Morn. Aft. Even. 18.5 19.2 20.0 20.9 21.4 21.2
Weight of Milk, 2nd day ...	...	...	...	...	...
Total ...	...	...	...	...	...	50.6 51.2 50.1	39.4 40.6 41.2
Average ...	...	...	...	...	...	25.3 25.6 25.05	19.7 20.3 20.6
Percentage of Fat ...	...	...	...	...	...	4.67 4.44 4.86	6.15 5.59 4.82
Percentage of Solids other than Fat ...	...	...	...	...	...	9.15 8.94 9.16	8.99 9.05 9.00
Percentage of Milk ...	...	...	...	...	...	13.82 13.38 14.02	15.14 14.64 13.82
Actual weight of Fat in lbs. ...	...	...	...	...	...	1.182 1.137 1.217	1.212 1.135 0.993
Actual weight of Solids other than Fat, in lbs. ...	...	...	...	...	...	2.31 2.29 2.29	1.77 1.84 1.85
Points ...	...	...	...	...	...
For weight of Milk (lbs.) ...	...	...	...	...	...	75.95	60.60
For weight of Fat (lbs. × 20) ...	...	...	...	...	...	70.72	66.80
For weight of Solids other than Fat (lbs. × 4) ...	...	...	...	...	...	27.56	21.84
Total Points for Milk ...	...	...	...	...	...	174.23	149.24
Deductions ...	...	...	...	...	...	—	—
TOTAL POINTS GAINED FOR MILK ...	...	...	...	...	...	174.23	149.24
Points for time since Calving ...	...	...	...	...	...	—	—
TOTAL POINTS GAINED ...	...	...	...	...	...	174.23	149.24
Points gained for Milk per 1,000 lbs. live weight ...	...	...	...	...	...	154.60	139.48
Points for time since Calving ...	...	...	...	...	...	—	—
Total Points per 1,000 lbs. live weight ...	...	...	...	...	...	154.60	139.48
Remarks and Awards ...	...	...	...	...	...	1st Prize.	Reserve.

CLASS 20.—AYRSHIRE COW, REGISTERED WITH A NUMBER IN THE HERD BOOK OR APPENDICES. BORN AFTER 1ST AUGUST, 1932, AND PREVIOUS TO 1ST AUGUST, 1934.

Number Name	213 Barbrough Lillas 28th.	214 Meadowbank Betty. Mar. 13, 1933. 1,339 Sept. 10, 40	215 Kilmaurs Mains Mermaid. Oct. 2, 1933. 1,081 Sept. 24, 26	219 Drumcork Lizzie 2nd. Sept. 20, 1933. 1,132 Sept. 13, 37
Born	Dec. 14, 1933. 1,216 Oct. 3, 17	Mar. 13, 1933. 1,339 Sept. 10, 40	Oct. 2, 1933. 1,081 Sept. 24, 26	Sept. 20, 1933. 1,132 Sept. 13, 37
Live weight, in lbs.	Morn. Aft. Even. 24.6 25.3 24.4	Morn. Aft. Even. 28.5 27.1 25.9	Morn. Aft. Even. 25.4 24.4 26.3	Morn. Aft. Even. 26.6 22.1 20.8
Last Calved	26.5 25.2 24.4	26.3 24.7 23.1	25.1 24.8 25.9	21.6 24.8 22.1
Days since Calving	51.1 60.5 48.8	54.8 51.8 49.0	50.5 49.2 52.2	48.2 46.0 42.0
Weight of Milk, 1st day	25.55 25.25 24.4	27.4 25.9 24.5	25.25 24.6 20.1	24.1 23.45 21.45
Weight of Milk, 2nd day	5.44 5.70 5.17	3.48 3.59 3.05	5.19 5.02 4.80	4.84 5.47 3.81
Total	9.00 9.20 9.31	9.14 9.03 9.03	8.77 8.92 8.82	8.70 8.85 8.91
Percentage (Fat	14.44 14.40 14.48	12.02 12.02 12.08	13.96 13.94 13.62	13.54 14.32 12.72
Actual weight of Fat, in lbs.	1.380 1.439 1.251	0.954 0.930 0.747	1.310 1.253 1.263	1.166 1.253 0.817
Actual weight of Solids other than Fat, in lbs.	2.30 2.52 2.27	2.50 2.34 2.21	2.21 2.19 2.30	2.10 2.08 1.91
Points	75.20 81.80 81.80	77.80 52.82 52.82	75.05 75.06 24.80	69.00 65.82 65.82
For weight of Milk (lbs.)	For weight of Fat (lbs. × 20)	For weight of Fat (lbs. × 20)	For weight of Fat (lbs. × 20)	For weight of Fat (lbs. × 20)
For weight of Solids other than Fat (lbs. × 4)	For weight of Solids other than Fat (lbs. × 4)	For weight of Solids other than Fat (lbs. × 4)	For weight of Solids other than Fat (lbs. × 4)	For weight of Solids other than Fat (lbs. × 4)
Total Points for Milk	184.56	158.02	178.71	158.08
Deductions				
TOTAL POINTS GAINED FOR MILK	184.56	158.02	178.71	158.08
Points for time since Calving				
TOTAL POINTS GAINED	184.56	158.62	178.71	158.68
Points gained for Milk per 1,000 lbs. live weight	151.78	118.46	165.32	140.18
Points for time since Calving				
Total Points per 1,000 lbs. live weight	151.78	118.46	165.32	140.18
Remarks and Awards	1st Prize.	7th Prize.	2nd Prize.	6th Prize.

CLASS 20.—AYRSHIRE COW (BORN AFTER 1ST AUGUST, 1932, AND PREVIOUS TO 1ST AUGUST, 1934)—(Continued).

Number Name	220 Brudlag Princess.	232 Auchenbathzie Mona 4th.	235 Kirkton Diana.	237 Brudlag Ellen.
Born	Aug. 25, 1932. 1316	Oct. 6, 1932. 1124	Jan. 7, 1933. 1,229	Mar. 7, 1934. 1,229
Live weight, in lbs.	27-5	22-3	24-9	16-4
Last Calved	Sept. 22. 28	Sept. 17. 33	Sept. 20. 21	Oct. 1. 19
Days since Calving	...	...	...	...
Weight of Milk, 1st day	Morn. 20-0 Aft. 23-1 Even. 25-4	Morn. 21-6 Aft. 22-3 Even. 24-0	Morn. 20-0 Aft. 24-9 Even. 25-1	Morn. 16-4 Aft. 16-9 Even. 16-7
Weight of Milk, 2nd day	51-4	41-6	46-9	30-3
Total	25-7	20-8	50-1	30-3
Average	4-11 8-75 13-16 1-133 2-25	4-10 8-82 12-82 0-853 1-83	25-05 6-18 9-08 14-84 1-318 2-27	15-15 5-10 9-44 14-54 0-773 1-43
Percentage of Fat	75-75 65-60 27-24	62-65 55-96 22-12	72-65 78-69 25-72	46-65 55-28 17-12
Composition of the Milk	...	...	...	...
Actual weight of Fat, in lbs.	108-50	140-67	176-90	119-05
Actual weight of Solids other than Fat, in lbs.	168-59	140-67	176-90	119-05
Points	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...
For weight of Fat (lbs. × 20)	...	...	...	...
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...
Total Points for Milk...	...	...	...	...
Deductions	...	...	...	...
TOTAL POINTS GAINED FOR MILK	...	...	...	...
Points for time since Calving	...	...	...	...
TOTAL POINTS GAINED	168-59	140-67	176-99	119-05
Points gained for Milk per 1,000 lbs. live weight...	128-11	125-15	143-66	96-87
Points for time since Calving	...	...	...	...
Total Points per 1,000 lbs. live weight	128-11	125-15	143-66	96-87
Remarks and Awards	5th Prize.	Highly Commended.	3rd Prize.	Highly Commended.

CLASS 21.—AYRSHIRE HEIFER, REGISTERED WITH A NUMBER IN THE HERD BOOK OR APPENDICES. BORN ON OR AFTER 1ST AUGUST 1934, AND HAVING PRODUCED ONLY ONE CALF.

Number Name ..	239 Auchengiberty Fairy Maid.	241 Barbrough Lillas 30th.	242 Beauchamps Aster.	243 Kilnours Maids Mermaid 2nd.
Born ..	Feb. 9, 1935. 1,010	Jan. 31, 1935. 1,106	Sept. 6, 1934. 1,120	Sept. 8, 1934. 981
Live weight, in lbs. ...	Sept. 29. 21	Sept. 12. 38	Sept. 15. 35	Sept. 4. 46
Last Calved ..				
Days since Calving ...				
Weight of Milk, 1st day ...	Morn. 15-6 Aft. 15-9 Even. 16-6	Morn. 17-9 Aft. 17-9 Even. 17-7	Morn. 21-4 Aft. 10-8 Even. 18-0	Morn. 15-0 Aft. 15-3 Even. 14-3
Weight of Milk, 2nd day ...	15-8 16-9	17-5 18-5	18-8 19-0	15-1 14-7 14-0
Total	31-4	32-5	33-4	30-7
Average	15-7	16-25	16-25	15-35
Percentage { Fat Composition of Solids other than Fat	5-52 8-84	5-08 8-70	4-68 8-72	5-08 8-31
the Milk { Total Solids	14-30 14-68	13-60 13-44	13-40 13-46	13-42 13-80
Actual weight of Fat, in lbs.	0-807 1-39	0-072 1-41	0-852 1-50	0-917 1-60
Actual weight of Solids other than Fat, in lbs.	1-43	1-43	1-56	1-56
Points—				
For weight of Milk (lbs.)	48-20	53-95	58-10	44-50
For weight of Fat (lbs. × 20)	53-74	52-58	67-94	38-06
For weight of Solids other than Fat (lbs. × 4)	16-92	18-84	19-48	16-16
Total Points for Milk	118-86	125-37	145-52	98-72
Deductions ...	—	—	30-0	—
TOTAL POINTS GAINED FOR MILK	118-86	125-37	115-52	98-72
Points for time since Calving	—	—	—	—
TOTAL POINTS GAINED	118-86	125-37	115-52	98-72
Points gained for Milk per 1,000 lbs. live weight...	117-68	113-35	103-14	100-63
Points for time since Calving ...	—	—	—	0-6
Total Points per 1,000 lbs. live weight	117-68	113-35	103-14	101-23
Remarks and Awards	6th Prize.	4th Prize.	(S. and P. below standard) Not eligible for Milking trial Awards.	Highly Commended.

CLASS 21.—AYRSHIRE HEIFER (BORN ON OR AFTER 1ST AUGUST, 1934)—Continued.

Number Name	240 Leensnack Mysle 4th.	250 Leensnack Rosalind 3rd.	251 Nether Craig Silk.	252 Sheepcotes Relish.
Born	Jan. 3, 1935. 976	Feb. 9, 1935. 1045 Sept. 25, 25	Sept. 9, 1934. 1,015 Sept. 22, 25	Sept. 14, 1934. 1,035 Sept. 19, 31
Live weight, in lbs.	...	...	...	...
Last Calved	Sept. 26, 24	Sept. 25, 25	Sept. 22, 25	Sept. 19, 31
Days since Calving	...	...	...	...
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	17.7 18.8 17.0	15.9 17.2 17.1	20.0 20.2 10.5	24.0 22.8 22.4
Total	17.2 19.7 18.2	18.3 18.4 17.5	10.5 19.4 10.0	22.4 20.2 21.4
Average	34.9 38.5 36.1	34.2 35.0 34.0	40.4 39.0 38.5	46.4 43.1 43.8
Percentage (Fat	17.45 19.25 18.05	17.1 17.8 17.3	20.2 19.8 10.25	23.2 21.55 21.9
Composition of Solids other than Fat	4.46 4.83 3.73	3.05 5.06 4.40	4.00 4.23 4.67	5.03 4.51 3.51
the Milk Total Solids	9.04 9.15 8.85	9.15 9.32 9.42	9.22 9.20 9.21	8.97 8.81 8.69
Actual weight of Fat, in lbs.	13.50 13.08 12.58	12.20 14.38 13.82	13.23 13.52 13.88	14.00 13.32 12.20
Actual weight of Solids other than Fat, in lbs.	0.778 0.430 0.673	0.522 0.901 0.761	0.808 0.838 0.899	1.167 0.972 0.759
Points—	1.58 1.76 1.00	1.56 1.06 1.63	1.86 1.84 1.77	2.08 1.90 1.90
For weight of Milk (lbs.)	54.75	52.20	59.25	66.65
For weight of Fat (lbs. × 20)	47.62	43.68	50.90	58.16
For weight of Solids other than Fat (lbs. × 4)	19.76	19.40	21.88	23.52
Total Points for Milk...	122.13	115.28	132.03	148.33
Deductions ...	—	—	—	—
TOTAL POINTS GAINED FOR MILK ...	122.13	115.28	132.03	148.33
Points for time since Calving	—	—	—	—
TOTAL POINTS GAINED	122.13	115.28	132.03	148.33
Points gained for Milk per 1,000 lbs. live weight...	125.13	110.32	130.46	143.31
Points for time since Calving ...	—	—	—	—
Total Points per 1,000 lbs. live weight	125.13	110.32	130.46	143.31
Remarks and Awards	5th Prize.	7th Prize.	2nd Prize.	1st Prize.

CLASS 21.—AYRSHIRE HEIFER (BORN ON OR AFTER 1ST AUGUST, 1934)—(Continued).

Number Name	257 South Craig Cunderella.	258 Isles Frisky.	259 Isles Fiona.	262 Galley Lane Flo.
Born	Nov. 27, 1934. 1,050 Oct. 3, 17	Jan. 27, 1935. 1,046 Sept. 6, 45	Feb. 1, 1935. Feb. 691 Sept. 27, 23	Feb. 21, 1935. 1,011 Sept. 3, 47
Live weight, in lbs.	...	...	...	...
Last Calved	...	...	...	...
Days since Calving	...	...	...	...
Weight of Milk, 1st day	...	...	...	...
Weight of Milk, 2nd day	...	...	...	...
Total	...	...	...	...
Average	...	...	...	...
Percentage of Fat	...	...	...	...
Compositor of Solids other than Fat	...	...	...	...
the Milk	...	...	...	...
Actual weight of Fat, in lbs.	...	...	...	...
Actual weight of Solids other than Fat, in lbs.	...	...	...	...
Points—	...	...	...	...
For weight of Milk (lbs.)	37.10	43.15	52.45	45.00
For weight of Fat (lbs. × 20)	31.40	37.84	54.18	33.06
For weight of Solids other than Fat (lbs. × 4)	14.48	15.80	19.36	10.72
Total Points for Milk	82.08	96.70	125.00	05.08
Deductions	...	...	...	...
TOTAL POINTS GAINED FOR MILK	82.08	96.70	125.00	95.98
Points for time since Calving	...	...	...	...
TOTAL POINTS GAINED	82.08	97.29	125.99	96.68
Points gained for Milk per 1,000 lbs. live weight...	...	...	...	...
Points for time since Calving	70.03	92.53	127.13	94.04
Total Points per 1,000 lbs. live weight	70.03	93.03	127.13	95.64
Remarks and Awards	Highly Commended.	Highly Commended.	3rd Prize.	Highly Commended.

CLASS 21.—AYRSHIRE HEIFER (BORN ON OR AFTER 1ST AUGUST, 1934)—Continued.

Number Name	...	...	...	...	...	263 Auchinghelt Nima 2nd.	264 Bracks Edna 6th. Sept. 25, 1934. Aug. 4, 77	268 Bruchar Snowflake 8th. April 15, 1935. 1,014 Sept. 20, 30
Born ...	...	...	...	...	...	Mar. 28, 1935. 880 Sept. 20, 30	Sept. 25, 1934. Aug. 4, 77	April 15, 1935. 1,014 Sept. 20, 30
Live weight, in lbs. ...	...	...	...	...	...	Morn. 17-5 Aft. 16-8 Even. 15-3	Morn. 15-3 Aft. 14-5 Even. 15-9	Morn. 16-0 Aft. 16-5 Even. 15-2
Last Calved ...	...	...	...	...	...	17-3	15-5	15-7
Days since Calving	...	...	...	...	...	34-8	30-8	31-7
Weight of Milk, 1st day	...	...	...	...	...	17-4	15-4	15-85
Weight of Milk, 2nd day	...	...	...	...	...	16-6	14-75	15-6
Total	...	...	...	...	...	3-83	4-08	4-70
Average	...	...	...	...	...	8-51	9-04	8-92
Percentage of Fat	...	...	...	...	...	11-84	13-12	13-62
Composition of Solids other than Fat	...	...	...	...	...	0-579	0-628	0-745
the Milk { Total Solids	...	...	...	...	...	1-48	1-30	1-41
Actual weight of Fat, in lbs.	...	...	...	...	...	49-45	45-60	47-15
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	37-36	38-84	40-66
Points—	...	...	...	...	...	17-24	16-52	17-04
For weight of Milk (lbs.)	...	...	...	...	...	104-05	100-96	110-85
For weight of Fat (lbs. × 20)	...	...	...	...	...	104-05	100-96	110-85
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	104-05	100-96	110-85
Total Points for Milk...	...	...	...	...	...	104-05	100-96	110-85
Deductions ...	...	...	...	...	...	104-05	100-96	110-85
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	104-05	100-96	110-85
Points for time since Calving	...	...	...	...	...	104-05	100-96	110-85
TOTAL POINTS GAINED	...	...	...	...	...	104-05	100-96	110-85
Points gained for Milk per 1,000 lbs. live weight...	...	...	...	...	...	118-24	116-45	109-32
Points for time since Calving	...	...	...	...	...	118-24	116-45	109-32
Total Points per 1,000 lbs. live weight	...	...	...	...	...	118-24	120-15	109-32
Remarks and Awards	...	...	...	...	...	Highly Commended.	Highly Commended.	Reserve.

CLASS 23.—GUERNSEY COW, ENTERED IN THE HERD BOOK. BORN AFTER 1ST AUGUST, 1932, AND WHICH HAS PRODUCED TWO OR MORE CALVES.

Number Name ...	280 Beallings Rose's Dequesa.	281 Lassie Darling of Mapleton.	284 Holmbury Pride 5th.
Born ...	May 24, 1934. 1,128	June 28, 1933. 844	Oct. 24, 1933. 1,021
Live weight, in lbs. ...	June 13. 129	Aug. 10. 71	Aug. 13. 68
Last Calved ...			
Days since Calving ...			
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	8-9 9-0 10-5	10-8 10-7 13-3	12-9 14-2 12-9
Weight of Milk, 3rd day	9-0 9-5 9-2	14-1 15-3 15-0	13-3 12-9 Absent
Total	18-5 19-4 19-7	30-9 32-0 30-9	25-8 27-1 —
Average	9-25 9-7 9-85	15-45 10-0 15-45	12-9 13-55 12-5
Percentage (Fat	4-55 4-87 4-88	4-57 4-67 4-91	4-25 4-92 4-31
Composition of Solids other than Fat	9-33 8-80 8-90	8-87 8-97 9-13	9-07 8-74 8-50
the Milk { Total Solids	13-88 13-75 13-84	13-44 13-64 14-04	13-32 13-66 12-90
Actual weight of Fat, in lbs.	0-421 0-472 0-481	0-706 0-747 0-750	— — —
Actual weight of Solids other than Fat, in lbs.	0-86 0-86 0-88	1-37 1-44 1-41	— — —
Points—			
For weight of Milk (lbs.)	28-80	46-90	—
For weight of Fat (lbs. × 20)	27-48	44-24	—
For weight of Solids other than Fat (lbs. × 4)	10-40	16-88	—
Total Points for Milk	60-08	108-02	—
Deductions ...	—	—	—
TOTAL POINTS GAINED FOR MILK	60-08	108-02	—
Points for time since Calving	8-9	3-1	Milk Yields not completed.
TOTAL POINTS GAINED	75-58	111-12	Cow removed under Foot and Mouth Disease Regulations.
Points gained for Milk per 1,000 lbs. live weight...	59-11	127-99	
Points for time since Calving	8-9	3-1	
Total Points per 1,000 lbs. live weight	68-01	131-09	
Remarks and Awards	—	1st Prize.	

CLASS 24.—GUERNSEY HEIFER, ENTERED IN THE HERD BOOK, AND WHICH HAS PRODUCED HER FIRST AND ONLY CALF AT OR UNDER THE AGE OF TWO YEARS AND NINE MONTHS.

Number Name	...	...	...	...	...	285 Bealings Wild Rose 2nd.	287 Mapleton Dora 2nd.	288 Mapleton Don Espoir 1st.	289 Wendy of Les Biceps.
Born	...	...	...	...	...	Jan. 15, 1935. 944	June 16, 1935. 858	May 12, 1935. 741	Dec. 25, 1934. 707
Live weight, in lbs.	...	...	...	...	...	April 2. 201	Aug. 15. 66	Sept. 15. 35	Aug. 5. 76
Last Calved	...	...	...	...	...	...	...	...	...
Days since Calving	...	...	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	Morn. Aft. Even. 12-9 12-9 12-9	Morn. Aft. Even. 7-4 6-4 6-1	Morn. Aft. Even. 9-4 9-3 8-3	Morn. Aft. Even. 15-9 15-8 15-7
Weight of Milk, 2nd day	...	...	...	...	...	12-3 12-1 11-6	6-6 6-8 7-1	7-9 8-1 8-1	14-1 15-1 13-8
Total	...	...	...	...	...	25-2 25-0 24-5	14-0 13-2 13-2	17-3 17-4 16-4	30-0 30-9 29-3
Average	...	...	...	...	...	12-6 12-5 12-25	7-0 6-6 6-6	8-65 8-7 8-2	15-0 15-45 14-65
Percentage of Fat	...	...	...	...	...	4-46 4-08 4-73	5-13 4-74 3-98	5-65 4-76 5-88	3-84 4-16 4-15
Composition of Solids other than Fat	...	...	...	...	...	9-00 8-68 8-91	9-41 9-10 9-40	9-79 9-10 8-96	9-54 9-74 9-53
the Milk	...	...	...	...	...	13-46 12-76 13-64	14-54 13-84 13-38	15-44 13-86 14-84	13-38 13-90 13-68
Actual weight of Fat, in lbs.	...	...	...	...	...	0-562 0-510 0-579	0-359 0-313 0-263	0-489 0-414 0-482	0-576 0-643 0-608
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	1-13 1-09 1-09	0-66 0-60 0-62	0-85 0-79 0-73	1-43 1-50 1-40
Points—	...	...	...	...	...	37-35	20-20	25-55	45-10
For weight of Milk (lbs.)	...	...	...	...	...	33-02	18-70	27-70	36-54
For weight of Fat (lbs. × 20)	...	...	...	...	...	13-24	7-52	9-48	17-32
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	...	...
Total Points for Milk	...	...	...	...	...	83-61	46-42	62-73	98-96
Deductions	...	...	...	...	...	...	...	...	...
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	83-61	46-42	62-73	98-96
Points for time since Calving	...	...	...	...	...	12-0	2-6	—	3-6
TOTAL POINTS GAINED	...	...	...	...	...	95-61	49-02	62-73	102-56
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	88-57	54-10	84-66	124-17
Points for time since Calving	...	...	...	...	...	12-0	2-6	—	3-6
Total Points per 1,000 lbs. live weight	...	...	...	...	...	100-57	56-70	84-66	127-77
Remarks and Awards	...	...	...	...	...	2nd Prize.	...	...	1st Prize.

CLASS 25.—JERSEY COW, ENGLISH OR ISLAND BRED, ENTERED IN OR ACCEPTED FOR THE HERD BOOK. BORN ON OR PREVIOUS TO 1ST AUGUST, 1932. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 8,000 LBS. AT FIVE YEARS OLD OR OVER, OF 6,000 LBS. AT UNDER FIVE YEARS OLD, EITHER DURING A LACTATION PERIOD OF 45 WEEKS, OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

Number Name	2943 Eucalla's Jest.	2944 Playmate of Oaklands.	2945 Kafovite.	2946 Wolvers Jenny.
Born	July 20, 1929. 893	May 17, 1929. 866	June 20, 1931. 882	Nov. 26, 1931. 1,033
Live weight, in lbs.	May 10. 154	Aug. 8. 73	Aug. 17. 64	Mar. 27. 207
Last Calved				
Days since Calving				
Weight of Milk, 1st day	Morn. Aft. Even. 13.7 16.1 15.2	Morn. Aft. Even. 15.0 16.4 16.5	Morn. Aft. Even. 16.3 18.6 18.6	Morn. Aft. Even. 20.1 14.0 13.0
Weight of Milk, 2nd day	14.5 15.8 14.8	16.8 16.3 16.5	18.1 18.6 18.4	12.0 14.6 13.4
Total	30.2 31.9 30.0	32.4 34.3 32.9	34.6 37.0 37.0	32.1 28.6 26.4
Average	15.1 15.95 15.0	16.2 17.15 16.45	17.3 18.5 18.5	16.05 14.3 13.2
Percentage of Fat	4.84 5.59 4.39	4.08 5.52 4.70	4.74 3.48 4.88	6.47 10.12 6.42
Composition of Solids other than Fat	9.32 9.27 9.23	9.54 9.06 9.02	9.14 8.92 8.88	9.47 9.00 8.94
the Milk Total Solids	14.16 14.86 13.62	14.22 14.58 13.72	13.88 12.40 13.76	15.94 19.15 15.04
Actual weight of Fat, in lbs.	0.731 0.892 0.659	0.758 0.947 0.773	0.820 0.644 0.603	1.447 1.447 0.847
Actual weight of Solids other than Fat, in lbs.	1.41 1.48 1.38	1.55 1.55 1.48	1.58 1.65 1.64	1.52 1.30 1.19
Points—				
For weight of Milk (lbs.)	46.05	49.89	54.30	43.55
For weight of Fat (lbs. × 20)	45.64	49.50	47.34	66.64
For weight of Solids other than Fat (lbs. × 4)	17.08	18.52	19.48	10.04
Total Points for Milk	108.77	117.08	121.12	126.23
Deductions	—	—	—	—
TOTAL POINTS GAINED FOR MILK	108.77	117.08	121.12	126.23
Points for time since Calving	11.4	3.3	2.4	12.0
TOTAL POINTS GAINED	120.17	120.98	123.52	138.23
Points gained for Milk per 1,000 lbs. live weight	121.80	125.89	137.32	122.20
Points for time since Calving	11.4	3.3	2.4	12.0
Total Points per 1,000 lbs. live weight	133.20	129.19	139.72	134.20
Remarks and Awards	Highly Commended.	Reserve.	6th Prize.	3rd Prize.

CLASS 25.—JERSEY COW, ENGLISH OR ISLAND BRED (BORN ON OR PREVIOUS TO 1ST AUGUST, 1932)—Continued.

Co	Number Name	297 Serene.	298 Wotton Bella Donna.	300 Duchess at Arms.	301 Foxbury Valentine 2nd.
Born	...	April 17, 1931. 840	June 25, 1930. 1,087	May 20, 1931. 908	June 11, 1931. 940
Live weight, in lbs.	...	June 6, 136	Aug. 16, 65	Sept. 24, 26	May 3, 170
Last Calved
Days since Calving
Weight of Milk, 1st day	...	Morn. 12-3 Aft. 10-6 Even. 11-7 Absent	Morn. 18-0 Aft. 21-9 Even. 16-9 15-6	Morn. 13-9 Aft. 14-7 Even. 15-7 Absent	Morn. 18-3 Aft. 17-3 Even. 16-0 18-2 17-3 18-2
Weight of Milk, 2nd day
Total	...	23-2	33-6	38-9	32-1
Average	...	11-6	10-8	19-45	16-05
Percentage of Fat	...	6-07	3-73	6-53	4-06
Composition of Solids other than Fat	...	9-65	9-49	9-29	9-70
the Milk	...	15-72	13-22	15-82	14-36
Actual weight of Fat, in lbs.	0-627	1-270	0-748
Actual weight of Solids other than Fat, in lbs.	1-59	1-81	1-56
Points—
For weight of Milk (lbs.)	52-30	...	52-65
For weight of Fat (lbs. × 20)	52-90	...	55-18
For weight of Solids other than Fat (lbs. × 4)	19-84	...	19-20
Total Points for Milk...	125-04	...	127-03
Deductions
TOTAL POINTS GAINED FOR MILK	125-04	...	127-03
Points for time since Calving	2-5	...	12-0
TOTAL POINTS GAINED	127-54	...	139-03
Points gained for Milk per 1,000 lbs. live weight...	120-58	...	135-14
Points for time since Calving	2-5	...	12-0
Total Points per 1,000 lbs. live weight	123-08	...	147-14
Remarks and Awards	4th Prize.	...	2nd Prize.

CLASS 25.—JERSEY COW, ENGLISH OR ISLAND BREED (BORN ON OR PREVIOUS TO 1ST AUGUST, 1932)—Continued.

Number Name ...	...	...	...	...	302 Elizabeth's Beauty.	304 April Vinnie.	305 Ellin.	306 Pearceland's Elleen 10th.
Born ...	...	...	...	...	Feb. 25, 1929. 898	April 1, 1930. 908	June 26, 1927. 1,000	July 2, 1931. 1,028
Live weight, in lbs. ...	...	...	...	...	Aug. 30. 51	May 24. 149	Sept. 22. 28	June 6. 137
Last Calved ...	...	...	...	...
Days since Calving ...	...	...	...	...
Weight of Milk, 1st day ...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day ...	...	...	...	...	14-8 14-9 14-3	14-4 10-8 12-1	15-7 16-9 16-5	21-9 18-6 18-6
Total ...	...	...	...	...	13-5 13-7 13-2	15-9 11-5 12-8	16-3 17-7 17-2	19-3 18-3 16-8
Average ...	...	...	...	...	28-3 28-6 29-5	30-3 22-3 24-9	32-0 34-6 33-7	41-2 39-9 35-4
Percentage (Fat ...	...	...	...	...	14-15 14-3 14-75	15-15 11-15 12-45	16-0 17-3 16-85	20-6 18-45 17-7
Composition of Solids other than Fat ...	...	...	...	...	5-21 6-05 5-39	7-31 6-63 6-54	5-36 5-60 6-37	6-55 6-23 5-62
the Milk Total Solids ...	...	...	...	...	9-31 9-61 9-49	9-73 8-89 10-50	9-22 9-03 9-03	9-17 9-81 9-68
Actual weight of Fat, in lbs. ...	...	...	...	...	14-52 15-66 14-88	17-04 16-59 16-20	14-82 15-40 15-72	16-04 15-30 15-30
Actual weight of Solids other than Fat, in lbs. ...	...	...	...	...	0-737 0-865 0-795	1-107 0-739 0-814	0-858 0-969 1-073	1-340 1-449 0-985
Points—	...	...	...	...	1-82 1-37 1-40	1-47 1-10 1-28	1-48 1-60 1-52	1-89 1-81 1-71
For weight of Milk (lbs.) ...	...	...	...	...	43-20	38-75	50-15	56-55
For weight of Fat (lbs. × 20) ...	...	...	...	...	47-94	53-20	58-00	69-86
For weight of Solids other than Fat (lbs. × 4) ...	...	...	...	...	16-36	15-40	18-40	21-64
Total Points for Milk ...	...	...	...	...	107-50	107-35	126-55	148-25
Deductions ...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK ...	...	...	...	...	107-50	107-35	126-55	148-25
Points for time since Calving ...	...	...	...	...	1-1	10-9	—	9-6
TOTAL POINTS GAINED ...	...	...	...	...	108-60	118-25	126-55	167-85
Points gained for Milk per 1,000 lbs. live weight ...	...	...	...	...	119-71	1-23	126-55	144-21
Points for time since Calving ...	...	...	...	...	1-1	10-9	—	9-6
Total Points per 1,000 lbs. live weight ...	...	...	...	...	120-81	129-13	126-55	153-81
Remarks and Awards ...	...	...	...	...	Highly Commended.	Highly Commended.	5th Prize.	1st Prize.

CLASS 26.—JERSEY COW, ENGLISH OR ISLAND BRED (BORN AFTER 1ST AUGUST, 1932)—Continued.

Number Name ...	...	...	...	...	...	316 Scarlett Aquamarine.	317 Robins Spotted Daisy.	320 The Poplar's Pride (girl).	321 Oxford's Mabel's Girl 2nd.
Born ...	...	...	...	...	...	Mar. 22, 1933. 750	June 4, 1933. 768	June 4, 1934. 708	Nov. 30, 1933. 787
Live weight, in lbs. ...	...	...	...	...	...	Sept. 10, 40	Sept. 19, 31	June 9, 133	Aug. 7, 74
Last Calving ...	...	...	...	...	...
Days since Calving ...	...	...	...	...	...
Weight of Milk, 1st day ...	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Sft. Even.
Weight of Milk, 2nd day ...	...	...	...	...	...	19-8 17-8 17-1	12-3 10-1 17-9	11-6 11-7 11-5	12-8 13-0 13-0
Total ...	...	...	...	...	...	16-5 17-4 17-1	7-1 11-6 10-7	11-5 11-2 11-5	10-8 12-7 13-0
Average ...	...	...	...	...	...	36-3 35-8 34-9	19-4 21-7 23-6	23-1 22-9 23-0	23-6 25-7 26-0
Percentage { Fat ...	...	...	...	...	...	18-15 17-9 17-45	9-7 10-85 14-3	11-55 11-45 11-5	11-8 12-85 13-0
Composition of { Solids other than Fat ...	...	...	...	...	...	6-38 5-26 4-65	3-38 3-85 7-44	0-29 7-03 0-39	5-33 5-83 5-61
the Milk { Total Solids ...	...	...	...	...	...	9-09 9-06 8-91	9-12 9-73 9-06	9-83 9-63 9-63	9-37 9-50 9-63
Actual weight of Fat, in lbs. ...	...	...	...	...	...	15-44 14-32 13-56	12-50 13-53 16-50	13-86 16-80 10-02	14-70 15-42 15-24
Actual weight of Solids other than Fat, in lbs. ...	...	...	...	...	...	1-158 0-942 0-811	0-828 0-418 1-564	0-726 0-805 0-755	0-629 0-749 0-729
Points—	...	...	...	...	...	1-64 1-62 1-55	0-88 1-06 1-30	1-11 1-13 1-11	1-11 1-23 1-25
For weight of Milk (lbs.) ...	...	...	...	...	...	53-50	34-85	34-50	37-05
For weight of Fat (lbs. × 20) ...	...	...	...	...	...	58-22	36-29	43-32	42-14
For weight of Solids other than Fat (lbs. × 4) ...	...	...	...	...	...	19-24	12-06	13-40	14-36
Total Points for Milk ...	...	...	...	...	...	130-96	84-01	93-22	94-15
Deductions ...	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK ...	...	...	...	...	...	130-96	84-01	93-22	94-15
Points for time since Calving ...	...	...	...	...	...	—	—	9-30	3-4
TOTAL POINTS GAINED ...	...	...	...	...	...	130-96	84-01	102-52	97-55
Points gained for Milk per 1,000 lbs. live weight ...	...	...	...	...	...	174-61	109-39	116-82 °	119-63
Points for time since Calving ...	...	...	...	...	...	—	—	9-3	3-4
Total Points per 1,000 lbs. live weight ...	...	...	...	...	...	174-61	109-39	126-12	123-03
Remarks and Awards ...	...	...	...	...	...	3rd Prize.	Highly Commended.	Reserve.	Highly Commended.

CLASS 26.—JERSEY COW, ENGLISH OR ISLAND BRED (BORN AFTER 1ST AUGUST, 1932)—Continued.

Number Name	323 Wotton Alfy Fairy.	325 Everdon Tecla Pearl.	327 Pagari's June Girl.	329 Betha's Fern Beauty.
Born ...	July 17, 1934. 909	Mar. 10, 1934. 815	June 18, 1934. 664	Mar. 9, 1934. 720
Live weight, in lbs. ...	June 28. 114	April 13. 190	June 15. 127	Sept. 27. 23
Last Calved ...				
Days since Calving				
Weight of Milk, 1st day	Morn. Aft. Even. 16-0 13-7 12-8	Morn. Aft. Even. 13-7 14-5 13-5	Morn. Aft. Even. 13-9 13-5 10-6	Morn. Aft. Even. 15-1 16-6 9-8
Weight of Milk, 2nd day	11-2 13-0 13-5	12-8 12-7 12-7	15-5 12-4 12-6	19-5 15-9 13-4
Total	27-2 20-7 20-3	26-5 27-2 26-2	29-4 25-9 23-2	34-6 32-5 23-2
Average	13-6 13-35 13-15	13-25 13-6 13-1	14-7 12-95 11-6	17-3 16-25 11-6
Percentage { Fat	4-70 4-64 5-45	6-27 6-34 5-62	5-92 5-02 3-38	4-69 6-70 4-89
Composition of { Solids other than Fat	9-00 9-24 9-45	9-17 9-40 9-48	9-46 9-06 9-54	9-97 10-30 10-19
the Milk { Total Solids	13-70 13-88 14-90	15-44 15-74 15-10	15-38 14-08 12-92	14-66 17-00 15-08
Actual weight of Fat, in lbs. ...	0-639 0-619 0-717	0-891 0-862 0-736	0-870 0-650 0-392	0-811 1-089 0-507
Actual weight of Solids other than Fat, in lbs. ...	1-222 1-23 1-24	1-22 1-28 1-24	1-39 1-17 1-11	1-72 1-67 1-18
Points—				
For weight of Milk (lbs.)	40-10	39-95	39-25	45-15
For weight of Fat (lbs. × 20)	39-50	48-58	38-24	49-34
For weight of Solids other than Fat (lbs. × 4)	14-76	14-96	14-68	18-28
Total Points for Milk ...	94-36	103-49	92-17	112-77
Deductions ...	—	—	—	—
TOTAL POINTS GAINED FOR MILK ...	94-36	103-49	92-17	112-77
Points for time since Calving	7-4	12-0	8-7	—
TOTAL POINTS GAINED	101-76	115-49	100-87	112-77
Points gained for Milk per 1,000 lbs. live weight...	103-81	126-98	138-81	156-63
Points for time since Calving	7-4	12-0	8-7	—
Total Points per 1,000 lbs. live weight	111-21	138-98	147-51	156-63
Remarks and Awards	Highly Commended.	5th Prize.	Highly Commended.	6th Prize.

CLASS 27.—JERSEY HEIFER, ENGLISH OR ISLAND BRED, ENTERED IN OR ELIGIBLE FOR THE HERD BOOK, AND WHICH HAS PRODUCED HER FIRST AND ONLY CALF AT OR UNDER THE AGE OF 2½ YEARS.

Number Name	333 Constance's Surprise 6th.	335 Anglepoise.	336 Wolvers (ay) Grl.	337 Loxwood Estellair.
Born	April 20, 1935. 736	July 17, 1935. 712	Aug. 12, 1935. 758	April 25, 1935. 872
Live weight, in lbs.	Aug. 20. 61	Sept. 6. 44	Aug. 15. 66	Sept. 27. 23
Last Calved				
Days since Calving				
Weight of Milk, 1st day	Morn. Aft. Even. 10-8 8-8 9-8	Morn. Aft. Even. 7-0 7-0 6-8	Morn. Aft. Even. 13-6 11-8 10-7	Morn. Aft. Even. 14-8 14-9 15-6
Weight of Milk, 2nd day	10-0 10-4 8-7	5-9 7-6 6-7	10-0 13-0 10-9	12-7 15-8 14-2
Total	20-8 19-2 18-5	12-9 14-6 13-5	23-6 24-8 21-6	27-5 30-7 29-8
Average	10-4 9-6 9-25	6-45 7-3 6-75	11-8 12-4 10-8	13-75 15-35 14-9
Percentage (Fat	6-16 6-85 5-76	5-90 6-18 4-82	5-12 6-26 4-25	5-89 7-05 7-18
Composition of Solids other than Fat	8-96 9-43 9-14	9-60 10-00 9-92	9-46 9-76 9-41	9-67 9-77 9-48
the Milk (Total Solids	15-12 16-28 14-90	15-50 16-18 14-74	14-58 16-02 13-66	15-56 16-82 16-58
Actual weight of Fat, in lbs.	0-641 0-658 0-533	0-381 0-451 0-325	0-604 0-776 0-459	0-810 0-862 1-010
Actual weight of Solids other than Fat, in lbs.	0-93 0-91 0-85	0-62 0-73 0-67	1-12 1-21 1-02	1-33 1-30 1-40
Points—				
For weight of Milk (lbs.)	20-25	20-50	35-00	44-00
For weight of Fat (lbs. × 20)	30-04	23-14	36-78	50-24
For weight of Solids other than Fat (lbs. × 4)	10-76	8-08	13-14	16-92
Total Points for Milk	76-05	51-72	85-18	120-16
Deductions	—	—	—	—
TOTAL POINTS GAINED FOR MILK	76-05	51-72	85-18	120-16
Points for time since Calving	2-1	0-4	2-6	—
TOTAL POINTS GAINED	78-75	52-12	87-78	120-16
Points gained for Milk per 1,000 lbs. live weight	104-14	72-04	102-37	137-80
Points for time since Calving	2-1	0-4	2-6	—
Total Points per 1,000 lbs. live weight	106-24	73-04	104-97	137-80
Remarks and Awards	Reserve.		4th Prize.	1st Prize.

CLASS 27.—JERSEY HEIFER, ENGLISH OR ISLAND BRED.—Continued.

Number Name	...	...	...	...	...	339 Shipton Snowdrop.	340 Smares Dianas' Princess 3rd.	341 Standard's Simple Maid.
Born	...	...	...	...	...	Sept. 22, 1935. 672	Feb. 18, 1933. 928 June 2. 140	Aug. 25, 1935. 734 Sept. 21. 29
Live weight, in lbs.	...	...	...	...	...	Sept. 9. 41		
Last Calved	...	...	...	...	...
Days since Calving	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	Morn. Aft. Even. 10-9 10-6 11-0	Morn. Aft. Even. 10-9 11-9 10-2	Morn. Aft. Even. 10-6 11-7 12-1
Weight of Milk, 2nd day	...	...	...	...	...	10-5 10-3 10-9	12-3 9-7 9-0	11-1 11-6 10-5
Total	...	...	...	...	...	21-4 20-9 21-0	24-2 21-6 19-2	21-7 23-3 22-6
Average	...	...	...	...	...	10-7 10-45 10-95	12-1 10-8 9-6	10-85 11-65 11-3
Percentage { Fat	...	...	...	...	...	6-03 7-25 5-69	6-46 6-89 5-12	7-44 6-19 5-99
Composition of { Solids other than Fat	...	...	...	...	...	9-39 9-81 9-45	9-56 9-87 9-74	9-96 9-65 9-67
the Milk { Total Solids	...	...	...	...	...	13-42 17-06 15-14	16-76 14-84	17-40 15-84 15-66
Actual weight of Fat, in lbs.	...	...	...	...	...	0-045 0-738 0-623	0-782 0-744 0-492	0-807 0-721 0-677
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	1-00 1-03 1-03	1-16 1-07 0-94	1-08 1-12 1-09
Points—	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	32-10	32-50	33-80
For weight of Fat (lbs. × 20)	...	...	...	...	...	40-32	40-36	44-10
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	12-24	12-08	13-16
Total Points for Milk	...	...	...	...	...	84-80	85-54	91-06
Deductions	...	...	...	...	...	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	84-80	85-54	91-06
Points for time since Calving	...	...	...	...	...	0-1	10-0	—
TOTAL POINTS GAINED	...	...	...	...	...	84-96	95-54	91-06
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	126-28	92-18	124-06
Points for time since Calving	...	...	...	...	...	0-1	10-0	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	126-38	102-18	124-06
Remarks and Awards	...	...	...	...	...	5th Prize.	2nd Prize.	3rd Prize.

THE MILKING TRIALS FOR GOATS, 1937.

By THOS. W. PALMER.

Fifteen entries in Class 40 (First Kidders) and 19 in Class 41 (not eligible for previous class) compared satisfactorily with 13 and 15 respectively at the 1936 Show when the classification was identical. Of the 34 entrants 13 failed to appear at the Agricultural Hall, one owing to Foot and Mouth Disease Regulations, so there were 21 competitors as against 18 last year.

No new record for yield of milk at the Dairy Show was established, but three goats gave a yield of over 15 lbs., which is itself a record, and one goat, "Hartye of Weald" ***Q*, owned by Miss Harrison, created some stir when it was announced that during the recorded year ending 1st October, she had, under the Essex Milk Recording Society, given a yield of 5,480 lbs., which is believed to be a world's record for a goat. Permission was sought and obtained by the B.B.C. for this goat to go from the Show to be televised at Alexandra Palace—probably another world's record.

Class 40. She Goats, First Kidders.—Fifteen entries, five absent (1936, 13 entries, four absent). First, Mrs. Bagnall's "Didgemere Dingalee" Q*, with a yield of 11·15 lbs. after being in milk for 528 days, butter fat 5·33% and 5·47%, total points 30·58. Second, Mrs. Morecom's "Cornish Frisky" *, yield 12·3 lbs. after a lactation of 223 days, butter fat 4·29% and 3·76%, total points 28·43. Third, Miss Pope's "Heddon Silver" Q*Q*, yield 10·25 lbs., lactation 200 days, butter fat 6·04% and 5·68%, total points 27·79. Fourth, Miss Barnaby's "Bitterne Favourite" *Q*, yield 9·65 lbs., lactation 486 days, butter fat 5·32% and 4·58%, total points 25·97 (this goat won second prize at the 1936 Show with a yield of 11·65 lbs., lactation 122 days, butter fat 4·53% and 4·60%, total points 27·40). A fifth prize was offered by the British Goat Society and was awarded to Miss Alexander's "Stockwell Tzigane" Q*Q*Q*, yield 9·65 lbs., lactation 237 days, butter fat 5·29% and 5·44%, total points 25·66; she was also Reserve for the Abbey Cup. The Reserve Number was Miss Parker's "Wall Sunrise" *Q*Q*, yield 8·55 lbs., total points 23·12. Miss Pope's "Highland Mauviette" Q*Q*Q*Q*Q*Q*, Mrs. Bagnall's "Sporle Pandora" *Q* and Miss Sheppard's "Didgemere Robbialac" *Q*Q***Q*, all obtained Commendations with 22·94, 22·33 and 20·04 points respectively.

Competition was keen, less than five points separating the first five goats, while only one goat was under 20 points.

Class 41. She Goats, not eligible for Class 40.—Nineteen entries, eight absent (1936, 15 entries, five absent). Mrs. Morecom's "Cornish Praline" Q*Q*Q*Q*Q*, was first with a yield of 15·7 lbs. after a lactation of 235 days, butter fat 4·2% and 4·75%, total points 37·26. She also obtained the Tremedda Selene Cup and the Dewar Trophy and was Reserve for the Baroness Burdett Coutts Cup, the Dewar Cup and the Dual Purpose Challenge Certificate. This goat won third prize in this class in 1936. Second prize was awarded to Miss Harrison's "Hartye of Weald" ***Q*, yield 15·65 lbs., lactation period 192 days, butter fat 4·46% and 4·75%, total points 37·06. In addition, she obtained the Holmes Pegler Trophy, the Baroness Burdett Coutts Cup, the Dewar Cup (with her stable companion "Secca of Weald"), the Chamberlain Cup, the Dual Purpose Challenge Certificate and was Reserve for the Tremedda Selene Cup and the Dewar Trophy. At the 1936 Show, this goat was first in this class. Third prize went to Miss Harrison's "Hindrance of Weald" ***Q*, yield 15·15 lbs., lactation 237 days, butter fat 4·14% and 5·08%, total points 36·54. This goat won second prize in the class at the previous Show. Fourth prize was awarded to Miss Harrison's "Humble of Weald" ***Q*, yield 13·70 lbs., lactation 201 days, butter fat 5·17% and 5·48%, total points 34·74. In addition she was Reserve for the Holmes Pegler Trophy and the Chamberlain Cup. At the 1936 Show this goat was first in the First Kidders' Class. The fifth prize, offered by the British Goat Society, was awarded to Mrs. Morecom's "Cornish Wibleyweb" Q*Q*Q*Q*Q*, with a yield of 12·4 lbs., lactation 219 days, butter fat 5·63% and 5·56%, total points 32·57. Mrs. Morecom's "Cornish Pitch" Q*Q* was Reserve, yield 10·25 lbs., lactation 228 days, butter fat 6% and 6·92%, total points 29·38. The same owner's "Cornish Playful" ***Q***Q* was Highly Commended with total points of 25·72, and Miss Sheppard's "Widdington Willenda" *Q* was Commended with 21·45 points and awarded the Straker Cup. Competition was very keen, only ·72 separating the first three goats, and 4·69 the five prizewinners. Nine goats which competed at the 1936 Show were again present and all obtained awards, five being prizewinners.

Class 42. She Goats, Toggenburg.—Seven entered for Inspection, three for Milking, one absentee. Miss Sheppard's "Widdington Willenda" *Q* was Commended in the class for older goats, yield 8·65 lbs., lactation 45 days, butter fat 5·73% and 5·17%, total points 21·45. She was awarded the Straker Cup for the Toggenburg goat obtaining the highest number of

points in the Milking Competition, thus winning this Cup for the third year in succession. The other entry, Mrs. Dominy's "Cheeky of Honiton," was a First Kidder, yield 6.5 lbs., lactation 106 days, butter fat 5.11% and 5.22%, total points 16.50; she was Reserve for the Straker Cup.

Class 43. She Goats, British Alpine.—Twelve entered for Inspection, nine for Milking, three absentees. Mrs. Bagnall's "Didgemere Dingalee" Q* was first in the young goat class, yield 11.15 lbs., lactation 528 days, butter fat 5.33% and 5.47%, total 30.58. In the class for older goats, Mrs. Morcom's "Cornish Pitch" Q*Q* was Reserve and obtained the Abbey Cup, yield 10.25 lbs., lactation 228 days, butter fat 6% and 6.92%, total points 29.38. The remaining goats were First Kidders; Miss Alexander's "Stockwell Tzigane" Q*Q*Q* won fifth prize and was Reserve for the Abbey Cup, yield 9.65 lbs., lactation 237 days, butter fat 5.29% and 5.44%, total points 25.66. Three goats obtained Commendations—Miss Pope's "Highland Mauviette" Q*Q*Q*Q*Q*Q*Q*, yield 9 lbs., total points 22.94, Mrs. Bagnall's "Sporle Pandora" *Q*, yield 9.15 lbs., total points 22.33, and Miss Sheppard's "Didgemere Robbialac" *Q*Q*Q*Q*, yield 7.55 lbs., total points 20.04.

Class 44. She Goats, Saanen.—Four entered for Inspection, two for Milking. Mr. Walsh's "Ripton Sybil" Q*Q* was awarded the Saanen Cup for the second year in succession, yield 6.4 lbs., lactation 141 days, butter fat 6.27% and 6.86%, total points 18.49, and Miss Parker's "Jean of Delamere" *Q* was Reserve for this Cup with a yield of 8 lbs., total points 18.78 (It should be noted that Inspection awards are taken into consideration in awarding the Saanen Cup.)

Class 45. She Goats, British Saanen.—Eight entered for Inspection, six for Milking, one absent. In the class for older goats, Miss Harrison's "Hartye of Weald" ***Q* won second prize with a yield of 15.65 lbs., lactation 192 days, butter fat 4.46% and 4.75%, total points 37.06. She won numerous other awards as enumerated in Class 41. Miss Harrison also won third and fourth prizes, the former with "Hindrance of Weald" ***Q*, yield 15.15 lbs., lactation 237 days, butter fat 4.14% and 5.08%, total points 36.54, and the latter with "Humble of Weald" ***Q*, yield 13.7 lbs., lactation 201 days, butter fat 5.17% and 5.48%, total points 34.74. In the First Kidders' class, Miss Pope's "Heddon Silver" Q*Q* was placed third, yield 10.25 lbs., lactation 200 days, butter fat 6.04% and 5.68%, total points 27.79.

Class 46. She Goats, Anglo-Nubian.—Eight entered for Inspection, two for Milking, both absent.

Class 47. She Goats, British Toggenburg.—Five entered for Inspection, three for Milking, one absent. In the class for older goats, Mrs. Moreom's "Cornish Praline" Q*Q*Q*Q*Q* won first prize and other special prizes, as given in Class 41, with a yield of 15·7 lbs., lactation 235 days, butter fat 4·2% and 4·75% total points 37·26, while the same exhibitor's "Cornish Frisky" * was awarded second prize in the First Kidders' class with a yield of 12·3 lbs., lactation 223 days, butter fat 4·29% and 3·76%, total points 28·43.

Class 48. She Goats, Any Other Variety.—Ten entered for Inspection, nine for Milking, five absent. Mrs. Moreom's "Cornish Wibblywob" Q*Q*Q*Q*Q* secured fifth prize in the class for older goats, yield 12·4 lbs., lactation 219 days, butter fat 5·63% and 5·56%, total points 32·57. Miss Barnaby's "Bitterne Favourite" *Q* was awarded fourth prize in the First Kidders' class, yield 9·65 lbs., lactation 486 days, butter fat 5·32% and 4·58%, total points 25·97. Mrs. Moreom's "Cornish Playful" **Q**Q* obtained a High Commendation in Class 41, yield 9·05 lbs., lactation 554 days, butter fat 6·77% and 4·65%, total points 25·72, and Miss Parker's "Wall Sunrise" *Q*Q* was Reserve in the First Kidders' class, yield 8·55 lbs., lactation 233 days, butter fat 5·39% and 5·51%, total points 23·12.

No goat was disqualified for deficiency of butter fat.

Tabulated statements follow:—

TABLE I.

Class.	Description.	Number in Class.		Average Live Weight.	Average Yield of Milk.	Highest Yield.	Lowest Yield.	Average period of Lactation.	Average Fat.	Average Solid not Fat.	Number of Animals below Standard for Fat.		Average points Gained.
		Entered.	Completing.								a.m.	p.m.	
42	Toggenburg ...	3	2	138	7.57	8.65	6.50	75	5.31	8.63	—	—	18.97
43	British Alpine ...	9	6	169	9.46	11.15	7.55	204	5.35	8.50	—	—	25.15
44	Saanen ...	2	2	176	7.20	8.00	6.40	174	5.19	8.60	—	—	18.03
45	British Saanen ...	6	5	171	12.32	15.65	6.85	193	4.91	8.34	—	—	30.44
46	Anglo-Nubian ...	2	—	—	—	—	—	—	—	—	—	—	—
47	British Toggenburg ...	3	2	156	14.00	15.70	12.30	229	4.25	8.26	—	—	32.84
48	British ...	9	4	171	9.91	12.40	8.55	373	5.42	8.11	—	—	26.84

TABLE II.

Description of Class.	Year of Show.	Number of Animals Competing.	Average live weight of each Animal.	Average period of Lactation.	Average weight of Milk.		Average weight of Milk per day.	Highest Yield.	Lowest Yield.	Percentages.			
										Fat.		Solids.	
					a.m.	p.m.				a.m.	p.m.	a.m.	p.m.
Other than First Kidders	1930	9	178	197	4.02	4.45	9.07	12.70	6.35	4.04	4.63	8.75	8.51
"	1931	14	158	194	4.20	3.97	8.17	14.30	3.00	4.97	4.01	8.36	8.60
"	1932	12	181	249	5.07	5.32	10.99	16.00	7.00	3.96	4.11	8.50	8.47
"	1933	14	182	208	5.18	5.04	10.22	14.10	6.95	4.57	4.36	8.27	8.73
"	1934	8	172	236	5.58	5.24	10.83	13.65	9.10	4.00	4.47	8.47	8.41
"	1935	8	191	260	5.77	5.45	11.22	15.20	8.60	4.31	4.43	8.60	9.04
"	1936	10	162	233	5.74	5.50	11.24	16.35	5.85	4.76	5.07	8.54	8.75
"	1937	11	176	218	5.77	5.30	11.07	15.70	0.40	5.13	5.19	8.39	8.32
First Kidders	1930	6	164	166	4.65	4.35	9.00	11.00	8.25	4.45	4.43	8.53	8.43
"	1931	14	163	200	4.28	4.06	8.34	14.45	5.70	4.43	4.73	8.30	8.58
"	1932	13	171	243	4.04	4.28	8.92	11.70	4.10	3.82	4.31	9.04	8.68
"	1933	8	187	208	5.12	4.80	9.92	12.05	7.15	4.20	3.88	8.17	8.66
"	1934	5	170	257	4.63	4.46	9.09	11.30	7.20	4.75	5.55	8.76	8.86
"	1935	10	173	216	4.96	4.81	9.77	12.25	7.25	4.37	4.42	8.78	9.14
"	1936	9	175	246	4.52	4.38	8.90	13.50	6.55	5.68	5.73	8.75	8.91
"	1937	10	156	260	4.87	4.51	9.38	12.80	6.50	5.20	5.62	8.53	8.32

CLASS 40.—SHE GOATS (First Kidders).

Number Name	348 Cheeky of Honiton.	350 Stockwell Tzgaue.	351 Highland Mauviette.	355 Spindle Pardora.	356 Dingemere Dingalee.	358 Dingemere Robbiakac.
Born	April 26, 1935. 123	Jan. 10, 1935. 140	Mar. 2, 1935. 201	April 21, 1935. 164	Feb. 28, 1934. 193	Mar. 25, 1934. 151
Live weight, in lbs.	July 3. 106	Feb. 22. 237	Mar. 6. 225	Mar. 15. 216	May 7, 1936. 528	May 20. 150
Last Kid	...	...	...	...	...	...
Days since Kidding	...	...	...	...	...	...
Weight of Milk, 1st day	Morn. Even. 3.4 3.2	Morn. Even. 5.2 4.4	Morn. Even. 5.0 4.6	Morn. Even. 5.2 4.7	Morn. Even. 5.6 4.7	Morn. Even. 3.9 3.9
Weight of Milk, 2nd day	3.2 3.2	5.1 4.6	4.6 3.8	4.6 3.8	6.3 5.7	3.7 3.6
Total	6.6 6.4	10.3 9.0	9.6 8.4	9.8 8.5	11.9 10.4	7.6 7.5
Average	3.3 3.2	5.15 4.5	4.8 4.2	4.9 4.25	5.95 5.2	3.8 3.75
Percentage { Fat	5.11 5.22	5.29 5.44	4.82 4.90	4.48 4.35	5.83 5.47	5.04 5.31
Composition of { Solids other than Fat	8.75 8.78	8.07 8.80	8.44 8.22	8.28 7.97	8.73 8.33	8.28 8.21
the Milk { Total Solids	13.86 14.00	13.96 14.24	13.26 13.12	12.76 12.32	14.06 13.80	14.22 13.52
Actual weight of Fat, in lbs.	0.169 0.167	0.272 0.245	0.231 0.206	0.220 0.185	0.317 0.284	0.228 0.199
Actual weight of Solids other than Fat, in lbs.	0.289 0.281	0.447 0.396	0.405 0.345	0.406 0.389	0.519 0.493	0.315 0.308
Points—	6.50	9.65	9.00	9.15	11.15	7.55
For weight of Milk (lbs.)	6.72	10.34	8.74	8.10	12.02	8.50
For weight of Fat (lbs. × 20)	2.28	3.37	3.00	2.98	3.81	2.49
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...
Total Points for Milk	15.50	23.30	20.74	20.23	20.98	18.54
Deductions	...	...	...	...	...	...
TOTAL POINTS GAINED FOR MILK	15.50	23.30	20.74	20.23	20.98	18.54
Points for time since Kidding	1.0	2.30	2.2	2.10	3.60	1.50
TOTAL POINTS GAINED	16.50	25.66	22.94	22.33	30.58	20.04
Remarks and Awards	...	5th Prize.	Commended.	Commended.	1st Prize.	Commended.

Class 40.—SHE GOATS (First Kidders)—continued.

Number Name	...	...	...	...	...	370 Heddon Silver.	385 Cornish Frisky.	390 Bitterne Favourite.	393 Wall Sunrise.
Born	...	...	...	...	...	Mar. 11, 1935. 130	April 17, 1935. 131	April 3, 1934. 178	April 2, 1935. 150
Live weight, in lbs.	...	...	...	...	...	Mar. 31. 200	Mar. 8. 223	June 18, 1936. 486	Feb. 26. 233
Last Kidled	...	...	...	...	...	...	...	...	...
Days since Kidling	...	...	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	Morn. Even. 5.7 5.1	Morn. Even. 6.3 6.1	Morn. Even. 5.0 4.4	Morn. Even. 4.5 4.5
Weight of Milk, 2nd day	...	...	...	...	...	4.9 4.8	6.1 6.1	5.0 4.9	4.1 4.0
Total	...	...	...	...	...	10.6 9.9	12.4 12.2	10.0 9.3	8.6 8.5
Average	...	...	...	...	...	5.3 4.95	6.2 6.1	5.0 4.65	4.3 4.25
Percentage { Fat	...	...	...	...	...	6.04 5.68	4.29 3.76	5.32 4.58	5.39 5.51
Composition of { Solids other than Fat	...	...	...	...	...	8.84 8.28	8.49 7.90	8.12 8.16	8.71 8.51
the Milk { Total Solids	...	...	...	...	...	14.88 13.96	12.78 11.66	13.44 12.74	14.10 14.02
Actual weight of Fat, in lbs.	...	...	...	...	...	0.320 0.281	0.266 0.229	0.266 0.213	0.232 0.234
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	0.469 0.410	0.526 0.482	0.406 0.379	0.375 0.362
Points	...	...	...	...	...	10.25	12.30	9.65	8.55
For weight of Milk (lbs.)	...	...	...	...	...	12.02	9.90	9.58	9.32
For weight of Fat (lbs. × 20)	...	...	...	...	...	3.52	4.03	3.14	2.95
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	...	...
Total Points for Milk...	...	...	...	...	...	25.70	26.23	22.37	20.82
Deductions	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	25.70	26.23	22.37	20.82
Points for time since Kidling	...	...	...	...	...	2.0	2.2	3.6	2.3
TOTAL POINTS GAINED	...	...	...	...	...	27.70	28.43	25.97	23.12
Remarks and Awards	...	...	...	...	...	3rd Prize.	2nd Prize.	4th Prize.	Reserve.

CLASS 41.—SHE GOATS (NOT ELIGIBLE FOR CLASS 40).

Number Name ...	...	...	...	...	...	344 Widdington Willenda. June 19, 1932. 153 Sept. 2, 45	354 Cornish Pitch. Feb. 18, 1933. 107 Mar. 3, 228	362 Ripton Sybil. April 9, 1934. 161 May 20, 141	364 Jean of Delaware. Jan. 24, 1933. 191 Mar. 24, 207	366 Silver of Delaware. Mar. 9, 1932. 189 June 5, 134	367 Hartie of Weald. April 30, 1933. 200 April 8, 192
Born ...	...	...	...	...	...	Morn. Even. 4-5 4-1 4-5 4-2	Morn. Even. 5-4 5-0 5-1 5-0	Morn. Even. 3-3 3-1 3-2 3-2	Morn. Even. 4-0 3-9 4-1 4-0	Morn. Even. 3-7 3-3 3-3 3-4	Morn. Even. 8-8 7-1 7-8 7-6
Live weight, in lbs. ...	...	...	...	...	...	9-0 8-3	10-5 10-0	0-5 0-3	8-1 7-9	7-0 6-7	10-6 14-7
Last Kidled ...	...	...	...	...	...	4-5 4-15	5-25 5-0	3-25 3-15	4-05 3-05	3-5 3-35	8-3 7-35
Days since Kidling ...	...	...	...	...	...	5-73 5-17 8-73 8-25 14-46 13-42	6-00 6-02 8-08 9-14 14-08 16-06	6-27 6-86 8-09 8-00 13-26 15-76	4-31 3-33 8-45 8-05 12-76 11-38	3-77 4-55 8-37 8-15 12-14 12-70	4-40 4-07 8-30 8-07 12-70 12-82
Weight of Milk, 1st day ...	...	...	...	...	...	0-258 0-215	0-315 0-346	0-204 0-216	0-175 0-132	0-132 0-152	0-370 0-349
Weight of Milk, 2nd day ...	...	...	...	...	...	0-363 0-342	0-471 0-437	0-252 0-280	0-342 0-318	0-293 0-273	0-689 0-563
Total ...	...	...	...	...	...	8-65 9-46 2-94	10-25 13-22 3-71	6-40 8-40 2-20	8-00 6-14 2-64	6-85 3-08 3-26	15-65 14-38 5-13
Average ...	...	...	...	...	...	21-05	27-18	17-09	16-78	14-79	35-16
Percentage of Fat ...	...	...	...	...	...	21-05	27-18	17-09	16-78	14-79	35-16
Composition of Solids other than Fat ...	...	...	...	...	...	0-4	2-20	1-4	2-0	1-3	1-90
the Milk ...	...	...	...	...	...	21-45	29-38	18-49	18-78	16-09	37-06
Total Solids ...	...	...	...	...	...	Commended.	Reserve.				2nd Prize.
Actual weight of Fat, in lbs. ...	...	...	...	...	...	
Actual weight of Solids other than Fat, in lbs. ...	...	...	...	...	...	
Points—	...	...	...	...	...	
For weight of Milk (lbs.) ...	...	...	...	...	...	
For weight of Fat (lbs. × 20) ...	...	...	...	...	...	
For weight of Solids other than Fat (lbs. × 4) ...	...	...	...	...	...	
Total Points for Milk ...	...	...	...	...	...	
Deductions ...	...	...	...	...	...	
TOTAL POINTS GAINED FOR MILK ...	...	...	...	...	...	
Points for time since Kidling ...	...	...	...	...	...	
TOTAL POINTS GAINED ...	...	...	...	...	...	
Remarks and Awards ...	...	...	...	...	...	

CLASS 41.—SHIE GOATS (NOT ELIGIBLE FOR CLASS 40)—continued.

Number Name	368 Humble of Weald.	369 Hindrance of Weald.	386 Cornish Praline.	387 Cornish Playful.	388 Cornish Whibleywb.
Born	May 26, 1934. 168	May 10, 1933. 166	Feb. 27, 1933. 182	Feb. 21, 1933. 201	Feb. 6, 1930. 184
Live weight, in lbs.	Mar. 30. 201	Feb. 22. 237	Feb. 24. 253	April 11, 1936. 554	Mar. 12. 219
Last Kid	...	...	...	...	...
Days since Kid	...	...	...	...	...
Weight of Milk, 1st day	Morn. Even. 7-8 6-3	Morn. Even. 8-1 7-4	Morn. Even. 8-3 7-6	Morn. Even. 5-4 4-4	Morn. Even. 6-9 5-9
Weight of Milk, 2nd day	6-8 6-5	7-6 7-2	8-2 7-3	4-3 4-0	5-9 6-5
Total	14-0 12-8	15-7 14-6	16-5 14-9	9-7 8-4	12-8 12-0
Average	7-3 6-4	7-85 7-3	8-25 7-45	4-85 4-2	6-4 6-0
Percentage { Fat	5-17 5-48	4-14 5-08	4-20 4-75	6-77 4-65	5-63 5-56
Composition of { Solids other than Fat	8-15 8-22	8-66 8-40	8-48 8-19	6-59 7-93	8-63 8-26
the Milk { Total Solids	13-32 13-70	12-80 13-48	12-68 12-94	13-36 12-58	14-26 13-82
Actual weight of Fat, in lbs.	0-377 0-351	0-325 0-371	0-347 0-354	0-328 0-195	0-360 0-334
Actual weight of Solids other than Fat, in lbs.	0-595 0-526	0-680 0-613	0-700 0-610	0-320 0-333	0-552 0-496
Points—					
For weight of Milk (lbs.)	13-70	15-15	15-70	9-05	12-40
For weight of Fat (lbs. × 20)	14-56	13-92	14-02	10-46	13-88
For weight of Solids other than Fat (lbs. × 4)	4-48	5-17	5-24	2-61	4-19
Total Points for Milk...	32-74	34-24	34-96	22-12	30-47
Deductions ...	—	—	—	—	—
TOTAL POINTS GAINED FOR MILK	32-74	34-24	34-96	22-12	30-47
Points for time since Kidling	2-0	2-3	2-3	3-6	2-1
TOTAL POINTS GAINED	34-74	36-54	37-26	25-72	32-57
Remarks and Awards	4th Prize.	3rd Prize.	1st Prize.	Highly Commended.	5th Prize.

THE "ROBERT MOND" CHALLENGE SHIELD AWARDS.

By J. MACKINTOSH, O.B.E., N.D.A., N.D.D.

This trophy was presented by Mr. Robert Mond to the British Dairy Farmers' Association in 1919, with the object of encouraging breeders of dairy stock to judge bulls more by the production of their daughters than by the appearance of the bulls themselves.

At the same time a special prize of £10 was also presented by Mr. Mond for two cows or heifers, the progeny of one bull, exhibited at the Dairy Show and gaining the largest number of points above the standard of the classes in which they were exhibited. The entry of two animals for this special prize was taken as equivalent to an entry for the Challenge Shield, but in order to qualify for the latter the two daughters exhibited at the Dairy Show and two additional daughters must have given at least 5,500 lbs. milk containing not less than 3·5 per cent. fat in their first lactation period, or at least 6,500 lbs. milk containing not less than 3·5 per cent. fat in their second or later lactation periods, each lactation period not to exceed 365 days and each competing animal to be in calf within five months of the commencement of the lactation period. The Challenge Shield is then awarded to the group of four daughters complying with these conditions and producing the highest yield of butter-fat.

The special prize of £10 has been won at practically all the Dairy Shows since 1920, but the Challenge Shield has been won on only seven occasions. It is probable that entries were restricted for a few years by the fact that the Prize and Shield were open only to Dairy Shorthorns, but since 1922 these trophies have been open to all breeds, and in some respects the qualifying conditions have been made less stringent. Full details are published each year in the schedule of prizes issued before the Show and in the catalogues issued at the Show.

Details are given below of the winning entries in 1925-26, 1928-29, 1930-31, 1931-32, 1932-33, 1933-34 and 1934-35.

The winner in 1925-26 was Major C. R. Dudgeon, Cargen Holm, Dumfries, with the progeny of the Ayrshire bull, "Thornhill Mount Royal" (19147). The yields of the four daughters of this bull were as follows:—

Daughters.	Milk Yield.	Fat Percentage.	Fat Yield.
	lbs.	%	lbs.
Cargen Holm Proud Lady 10th	10,193	4.11	415.2
Cargen Holm Sally 6th ...	11,693	3.83	447.8
Cargen Holm Proud Lady 8th ...	9,721	4.05	393.7
Cargen Holm Daisy Bell 2nd ...	8,566	4.23	362.3
Total fat yield ...			1,619.0

The reserve in 1925-26 was Mr. E. A. Smith, Longhills, Lincoln, with the progeny of the Dairy Shorthorn bull, "Babraham Lord Price" (140574). The total yield of fat of the four daughters of this bull was 1,126.0 lb.

In 1928-29 the winner was Mr. Grosvenor Berry with the progeny of the Jersey bull, "Nimrod" (14890). The yields of the four daughters of this bull were as follows:—

Daughters.	Milk Yield.	Fat Percentage.	Fat Yield.
	lbs.	%	lbs.
Post Girl 2nd	7,542½	4.17	314.52
Nimrod's Primrose	5,786	5.76	333.27
Water Dinah	9,117¼	3.64	331.87
Nimrod's Taranto 2nd	8,285¼	3.86	319.81
Total fat yield ...			1,299.47

The winner in 1930-31 was Mr. G. Wills, Rydon, Ogwell, Newton Abbot, with the progeny of the South Devon bull, "Flete Forester 7th" (11444). The yields of the four daughters of this bull were as follows:—

Daughters.	Milk Yield.	Fat Percentage	Fat Yield.
	lbs.	%	lbs.
Primula 5th (33706)	8,508½	3·99	339·19
Milkmaid (33702)	7,938½	4·54	360·41
Snowdrop 6th (33707)	7,871½	4·11	323·52
Pink 12th (33703)	6,163¼	4·19	258·24
Total fat yield			1,281·66

The reserve in 1930-31 was Mr. A. Weightman, Middle Herrington, Sunderland, with the progeny of the British Friesian bull, "Wychnor Jan" (P.I.) (24645). The total yield of fat of the four daughters of this bull was 1,086·64 lbs.

In 1931-32 four entries were received, but only in one of these were all the conditions complied with. The winner was Mr. J. Cochrane, Byreholm, Thornhill, Dumfries-shire, with the progeny of the Ayrshire bull, "Netherton Prosperity" (26488). The yields of the four daughters of this bull were as follows:—

Daughters.	Milk Yield.	Fat Percentage.	Fat Yield.
	lbs.	%	lbs.
Byreholm Jubilee 2nd (23744) ...	11,640	4·40	512·16
Byreholm Julia 2nd (23747) ...	9,410	3·72	350·05
Byreholm Jujube (23746) ...	8,760	4·25	372·30
Byreholm Juno (23749) ...	5,630	4·45	250·53
Total fat yield			1,485·04

In 1932-33 there were seven entries, but unfortunately six of these failed to comply fully with the conditions, owing to delayed calvings or other occurrences.

The winner was found to be Mr. G. Wills, Rydon, Ogwell, Newton Abbot, with the progeny of the South Devon bull, "Flete Forester 7th" (11444). Mr. Wills also won the Shield in 1930-31 with a group of progeny by the same bull. The yields of the four daughters were as follows:—

Daughters.	Milk Yield.	Fat Percentage	Fat Yield.
	lbs.	%	lbs.
Starlight 11th (34377)	8,999	4.21	378.86
Pink 12th (33703)	6,519 $\frac{3}{4}$	3.97	252.32
Lavender 3rd (34372)	6,631 $\frac{1}{2}$	4.27	283.16
Snowdrop 6th (33707)	9,250 $\frac{1}{2}$	4.45	411.65
Total fat yield			1,325.99

In 1933-34 there were again seven entries:—two from Dairy Shorthorn herds, two from British Friesian herds, two from South Devon herds and one from a Guernsey herd. Unfortunately, through a variety of causes such as failure of the animals sent to the Dairy Show to attain the class standard in points, failure to calve again within 425 days or sale of an animal, six out of the seven entries failed to comply with the conditions of the competition. The remaining entrant, Mr. George Wills, Rydon, Ogwell, Newton Abbot, complied with all the conditions and therefore held the Shield for that year.

The sire of the four animals was the South Devon bull, "Wychbrook Champion" (10995). Mr. Wills was the winner in 1932-33 and also in 1930-31 with another bull, "Flete Forester 7th" (11444) and deserved congratulations on his continued success.

The yields of the four daughters in 1932-33 were as follows:—

Daughters.	Milk Yield.	Fat Percentage	Fat Yield.
	lbs.	%	lbs.
Hawthorn 8th (14069)	7,741½	4·35	336·74
Hawthorn 9th (15073)	8,096½	3·94	318·99
Starlight 14th (15116)	9,575½	4·32	413·65
Milkmaid 3rd (14072)	6,509	4·44	288·99
Total fat yield			1,358·37

In 1934-35 there were eight entries and five breeds were represented, namely :—Dairy Shorthorns, 3; Ayrshires, 2; Red Polls, 1; Jerseys, 1; South Devons, 1.

For various reasons four of the entries failed to comply with the conditions, but the remaining four produced results which were worthy of close attention. The winner of the Shield was Mr. Gordon McWilliam, Dunwood Manor, Romsey, Hants., with the bull "Warrior's Cid You'll Do" (15462). The records of the four daughters of this bull are shown below and the total weight of butter fat produced by the four daughters constituted a record for this competition, a total of 2,397·55 lbs. showing a marked advance on the previous highest total—1,619 lbs. earned in 1925-26 by an Ayrshire breeder. The yields of the four daughters of Mr. Gordon McWilliam's bull were :—

Daughters.	Milk Yield.	Fat Percentage.	Fat Yield.
	lbs.	%	lbs.
Bollhayes May's Sunrise (12170)	18,006½	4·18	752·67
Bollhayes Jolly Bart (12164) ...	13,486	4·53	610·92
Bollhayes Princess Mary (12177)	12,200	4·87	594·14
Bollhayes Parlourmaid (12173)	9,928½	4·43	439·82
Total fat yield			2,397·55

The reserve was Mr. J. Cochrane, Byreholm, Penpont, Dumfries, with the progeny of the bull "Halldykes Willy" (29848). The total fat yield of the progeny of this bull was 1,656.18 lb., which also exceeded the previous record yield.

The competition for the Shield for 1934-35 was much keener than in previous years and the general standard of performance was notably higher. An increase in the number of entries may confidently be looked for in succeeding years.

In 1935-36 there were nine entries and five breeds were represented:—Dairy Shorthorns, 3; Lincoln Red Shorthorns, 2; British Friesian, 2; South Devon, 1; and Ayrshire, 1.

Unfortunately none of these entries ultimately complied with all the conditions and therefore the Shield could not be awarded.

In 1936-37 there were ten entries and five breeds were represented:—Lincoln Red Shorthorn, 2; British Friesian, 3; South Devon, 1; Ayrshire, 2; and Jersey, 2.

In this year also none of these entries was able to comply with all the conditions and the Shield could not be awarded. It is one of the conditions that each of the four animals entered must have calved again within 425 days of the date of calving, commencing the lactation period in which she is entered for the Robert Mond Shield, and failure to comply with this condition is the main cause of most of the entries being ultimately unable to qualify.

THE DAIRY SHOW BUTTER TESTS, 1937.

By J. G. W. STAFFORD, N.D.D.

For the 1937 London Dairy Show Butter Tests the conditions governing awards were essentially the same as for the 1936 Show, with the exception that the breed standard points have been modified for the 1937 Show to include an allowance for points for quality of butter.

The following scale of points was used and prizes awarded in accordance with same, viz. :—

One point for every ounce of butter; one point for every completed ten days since calving, deducting the first forty days, and, in addition, points not exceeding a maximum of 10 for quality of butter, including colour and texture. Maximum allowance for period of lactation, 12 points. Fractions of ounces of butter, and incomplete periods of less than 10 days, will be worked out in decimals, and added to the total points.

In the case of cows obtaining the same number of points, the prize will be awarded to the cow that has been the longest time in milk. No prize or other award will be given to animals in the Butter Tests which do not come up to the following standard :—

Breed.				Heifers.	Cows under	Cows 5 years
				Points.	5 years.	and over.
					Points.	Points.
Pedigree Shorthorns	...	...	...	29.7	35.3	41
Non-pedigree Shorthorns	...	...	...	29.7	35.3	41
Lincoln Red Shorthorns	...	...	...	29.7	35.3	41
British Friesians	...	...	...	29.7	35.3	41
South Devons	...	...	...	29.7	35.3	41
Devons	...	...	...	27.0	32.0	37
Red Polls	...	...	...	29.7	35.3	41
Blue Albions	...	...	...	29.7	35.3	41
Welsh	...	...	...	27.0	32.0	37
Ayrshires	...	...	...	29.7	35.3	41
Guernseys	...	...	...	27.0	32.0	37
Jerseys	...	...	...	30.3	36.2	42
Kerries	...	...	...	26.3	31.2	36
Dexters	...	...	...	26.3	31.2	36

A Certificate of Merit and Highly Commended Card will be given to animals, other than prize winners, that reach the above standard.

The following were the number of animals entered and the actual numbers tested at the 1937 Dairy Show.

Breed.	No. Entered.	No. Tested.	No. not eligible for award under Rule 32 (m).
Pedigree Shorthorns	24	18	—
Non-pedigree Shorthorns	12	3	—
Lincoln Reds	8	5	—
British Friesians	46	21	1
South Devons	8	7	—
Red Polls	18	9	—
Ayrshires	55	26	—
Guernseys	19	11	—
Jerseys	44	28	—
	<u>234</u>	<u>128</u>	<u>1</u>

SHORTHORNS.

A. Pedigree.—18 pedigree Shorthorns were tested, which is the same number as for 1936. Eight of these failed to reach the breed standard.

C. J. Allday's cow "Fothering Foggathorpe 2nd" was third in her class with 49·0 points and was awarded the Shorthorn Butter Cup for the second year in succession.

"Countess Clara 3rd," owned by P. R. L. Savill, was fourth with 46·75 points, her milk yield being 51·2 lbs. and her butter yield 2·28 lbs.

"Copsale Wildeyes 16th," owned by Sir Martin J. Melvin, Bart., was fifth with 46·10 points, her milk yield 71·4 lbs. and her butter yield 2·50 lbs.

Special prizes of £1 were awarded to Capt. A. S. Wills' "Thornby Barrington Duchess 9th" and to Sir Martin J. Melvin, Bart.'s "Dainty Princess 12th."

B. Non-pedigree.—Only three cows were tested, one of which failed to reach the breed standard.

"Cantab Flora 6th" won the second prize and bronze medal for Cambridge University Farm with 51·15 points, a milk yield of 66·8 lbs. which produced 2·65 lbs. butter.

C. Lincoln Reds.—Five cows were tested, three of which failed to reach breed standard.

Chivers & Sons' "Histon Fanny 8th" with 51.50 points was placed first in her class and received the silver medal. Her milk yield was 64.2 lbs. and 2.65 lbs. butter was made.

A special prize of £1 was awarded to John Evens & Sons' cow "Burton Venetia 2nd."

BRITISH FRIESIANS.

Twenty-one animals were tested, one of which was ineligible for award under rule 32 (m) and four failed to reach breed standard.

T. H. Merrick's "Hurdlesgrove Pel Betty 2nd" won first prize and silver medal with 62.75 points. Her milk yield was 88.7 lbs. which produced 3.40 lbs. butter.

Thos. Brown's "Middlewich Sylvia" won second prize and bronze medal with 60.75 points. Her milk yield was 88.8 lbs. and her butter yield 3.3 lbs.

Third prize went to Strutt & Parker (Farms), Ltd., with "Lavenham Trifolium 6th." Her total points were 58.75, her milk yield 83.1 lbs. and her butter yield 3.23 lbs.

From Lord Rayleigh's Farms, "Terling Torch 66th" was awarded fourth prize with 55.75 points. Her milk yield was 74.9 lbs. and her butter yield 2.98 lbs.

Cecil Ball's "Oakham Dainty Gem" was fifth with 54.75 points, a milk yield of 88.1 lbs. and a butter yield of 3.23 lbs.

Four special prizes of £1 were awarded to the following:—

J. H. Brown for "Marshgreen Kathleen 2nd."

W. Curtis & Son for "Abingworth Ilene."

A. Weightman for "Herrington Maureen."

H. C. Alexander for "Kenton Tigress 2nd."

SOUTH DEVONS.

Seven cows were tested, all of which reached the breed standard.

The premier award went to L. W. Hunt's "Diptford Downs Milkmaid 13th." Her total points were 57.5. Her milk yield 58.1 lbs. and her butter yield 2.75 lbs.

"Westerland Anne," owned by L. V. Bunday, was second with 48.7 points. Her milk yield was 57.3 lbs. which produced 2.40 lbs. butter.

RED POLLS.

Nine animals competed, but only one reached breed standard.

Stuart Paul's "Kirkton Sundial" took first prize and silver medal with 43.15 points. Her 84.7 lbs. of milk produced 2.45 lbs. butter.

AYRSHIRES.

An excellent class of 26 animals were tested, but eight failed to reach breed standard.

The premier award and silver medal went to J. A. Rennie's "Kirkton Diana" with 63.25 points. This cow gave 76.1 lbs. milk and 3.51 lbs. butter, this being the highest yield of butter during the show.

Alex Watson's cow "Barboigh Lilies 28th" won second prize and bronze medal with 60.5 points, a milk yield of 74.3 lbs. and a butter yield of 3.34 lbs.

John Logan's "Beauchamps Aster" was third with 57.5 points. She gave 60.1 lbs. milk and 3.1 lbs. butter.

Fourth prize went to W. & J. Logan's "South Craig Miss Mabel." This cow had a total of 55.75 points and gave 59.7 lbs. which produced 2.98 lbs. butter.

R. Barbour took fifth prize with "Relief Lady Grace 2nd." Points 52.25. Milk 74.7 lbs. Butter 2.95 lbs.

Five special prizes were awarded to:—

D. Mackay for "Garston Orange Blossom."

Graham Bros. for "Barr Milkmaid."

A. W. Montgomery for "Drumcork Lizzie 2nd."

Graham Bros. for "Criffel Cherry 2nd."

H. Wyllie for "Bruchag Princess."

GUERNSEYS.

Eleven animals were tested, all of which reached breed standard.

First prize and silver medal went to J. Brooke's cow "Bealings Wild Rose 2nd." This animal had 45.5 points, a milk yield of 38.7 lbs. and a butter yield of 1.6 lbs. This cow had been 201 days in milk and got 12 points for lactation.

A. Thomas Loyd's cow "Lockinge Lady Belle 6th" won second prize and bronze medal with 44.5 points. She gave 52.6 lbs. of milk and 2.53 lbs. of butter.

S. R. Hicks' cow "Broad Oak Madge" was third with 44.3 points, a milk yield of 56.1 lbs. which produced 2.47 lbs. of butter.

The fourth prize went to Capt. H. J. Pilbrow, whose cow "Vera's Pride of the Queen's" gained 41.5 points. Her milk yield was 58 lbs. which produced 2.10 lbs. butter.

Fifth prize was won by H. A. Y. Dyson with "Floss of Payhay." She had 39.50 points, gave 33.5 lbs. of milk and 1.34 lbs. butter. This cow had been in milk 196 days and had 12 points for lactation.

One special prize of £1 went to Hon. A. E. Guinness for "Serena of Myrtle Place."

JERSEYS.

This was the largest class, 28 animals being tested. Five of these failed to reach breed standard.

"Wolvers Jenny," the property of W. E. Press, took premier award and silver medal with 77.75 points. Her milk yield was 47.1 lbs. and her butter yield 3.49 lbs., an excellent ratio of 1—13.52. This cow was also awarded the National Butter Challenge Cup and was reserve for the Blythwood Production Challenge Bowl, the Loxwood Jubilee Challenge Cup and the Jersey Perpetual Production Trophy.

"Mermaid 2nd" won second place and bronze medal for the Ladies Constance Ryder and Audrey Anson. Her total points were 61.9. Her milk yield 50.2 lbs. produced 2.81 lbs. of butter.

J. W. McCallum's cow "Pearcelands Eileen 10th" took third place with 61.35 points. This animal gave 59.1 lbs. milk which produced 2.78 lbs. butter. She was awarded the Blythwood Production Challenge Bowl, the Loxwood Jubilee Challenge Cup and the Jersey Perpetual Production Trophy.

Sir J. B. Lloyd's "Foxbury Valentine 2nd" was placed fourth with 56.5 points. She gave 51.6 lbs. milk and 2.40 lbs. butter.

H. L. Pitman's "Scarletts Aquamarine" was fifth with 54.45 points. Her milk yield was 56.0 lbs. and her butter yield 3.03 lbs. This cow was reserve for the National Butter Challenge Cup, which is awarded on a live weight basis.

Special prizes of £1 were awarded to :—

Miss G. M. Yule for "April Vinnie."

Mrs. E. Allfrey for "Elfin."

M. F. North for "Conyboro Premature 6th."

Miss G. M. Yule for "The Poplar's Pride Girl."

TROPHIES AND CUPS IN THE AWARDING OF WHICH BUTTER TEST
POINTS ARE TAKEN INTO CONSIDERATION.

	Winner		Reserve	
	No.		No.	
The B.D.F.A. Supreme Championship	213		127	
Morrison Trophy	169		1	
Spencer Cup	127		213	
National Butter Cup	296		316	
Melvin Cup	1		27	
Shorthorn Butter Cup	1		63	
South Devon Herd Book Cup	155		160	
Busk Cup (Devons)	Not awarded.			
Thornton Cup (Red Polls)	169		—	
Rowallan Cup (Ayrshires)	213		230	
Stagenhoe Cup (Guernseys)	275		271	
Blythwood Production Bowl (Jerseys)	306		296	
Jersey Production Bowl	306		296	
Loxwood Jubilee Cup (Jerseys)	306		296	
Loder Cup (Dexters)	Not awarded.			

Average weight of animals entered for the 1937 Butter Tests.

	lbs.		lbs.
Pedigree Shorthorns (17)	1,277	Red Polls (9)	1,260
Non-pedigree Shorthorns (3)	1,387	Ayrshires (26)	1,156
Lincoln Reds (5)	1,377	Guernseys (11)	1,022
British Friesians (20)	1,392	Jerseys (28)	854
South Devons (7)	1,337		

Average weight all breeds=1,163 lbs. (Excluding one animal not weighed.)

The following table gives the average results for all breeds competing since 1920 :—

Year.	Total No. of Cows.	Average weight 24 hours' Milk.	Average Yield of Butter.	Average Butter Ratio.	*Average No. of Points.
		lbs.	lbs. ozs.		
1920	111	39	1 9½	24.21	28.25
1921	173	39½	1 0½	25.35	27.68
1922	187	42½	1 8½	27.99	26.31
1923	143	41½	1 11½	24.03	32.23
1924	148	43½	1 12½	24.21	32.55
1925	154	46½	1 13½	25.59	32.61
1926	149	49½	1 15½	26.69	34.68
1928	133	40½	1 14½	27.00	33.93
1929	130	52½	1 15½	28.69	32.48
1930	147	50½	1 13½	28.47	34.43
1931	140	57½	2 0	28.74	34.43
1932	159	56½	1 15½	29.40	32.93
1933	138	51.8	1.91	27.15	32.91
1934	165	55.5	2.0	27.73	34.58
1935	165	55.8	2.191	25.6	34.94
1936	172	57.2	2.17	26.37	44.89
1937	127	58.6	2.07	28.30	41.52

* In 1936 and 1937 an extra 10 points were awarded for quality.

TABLE I.—NUMBER OF CATTLE TESTED SINCE 1901.

Breed.	1901 to 1915	1919	1920	1921	1922	1923	1924	1925	1926	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
Shorthorns ...	332	24	30	63	39	34	18	15	23	20	27	21	26	24	18	22	22	21	21
Lincoln Reds ...	55	4	4	7	7	9	8	10	4	4	4	8	8	5	4	3	10	7	5
British Friesians ...	3	2	15	10	24	13	23	19	25	19	16	19	16	30	19	16	19	20	21
South Devons ...	40	—	—	5	5	3	—	3	1	7	9	12	9	19	14	12	10	12	7
Devons ...	—	5	2	6	7	5	3	8	1	2	1	2	—	4	—	4	4	—	—
Red Polls ...	65	11	12	17	23	13	17	6	17	17	13	23	22	10	16	26	28	19	9
Blue Albions ...	—	—	—	—	—	—	4	5	4	—	2	1	1	—	—	—	—	—	—
Welsh Blacks ...	—	—	—	—	4	—	—	2	1	—	—	—	—	—	4	3	6	2	—
Ayrshires ...	17	—	—	2	20	16	15	31	26	25	18	21	21	22	12	30	22	27	26
Guernseys ...	51	16	14	19	15	10	16	18	14	10	10	12	20	12	20	16	21	17	11
Jerseys ...	249	22	21	24	27	25	32	24	25	22	22	22	18	27	24	25	22	37	28
Kerries ...	15	4	8	17	13	7	10	7	5	2	4	1	4	1	—	5	—	2	—
Dexters ...	8	6	5	3	3	8	2	3	3	5	4	5	5	5	7	3	1	4	—
TOTALS ...	835	94	111	173	187	143	148	151	149	133	130	147	140	159	138	165	165	168	128

TABLE II.—NUMBER OF CATTLE OF THE VARIOUS BREEDS TESTED
SINCE 1928, WITH THEIR AVERAGE PERIOD OF LACTATION,
WEIGHT OF BUTTER, BUTTER RATIOS AND POINTS.

Year	No.	Breed.	Average No. of Days in Milk.	Average Yield of Milk.	Average Weight of Butter.	Average Butter Ratio.	Average No. of Points.*
				lbs.	lbs. ozs.	lbs.	
1929 ...	27	Shorthorns ...	51	—	1 9	31.62	26.79
1930 ...	21	" ...	50	—	1 9	31.98	26.86
1931 ...	26	" ...	53	—	1 14	33.92	31.73
1932 ...	24	" ...	38	—	1 14½	35.13	31.13
1933 ...	18	" ...	42	—	1 14	30.34	31.84
1934 ...	22	" ...	47	—	1 9	36.78	29.89
1935 ...	22	" ...	43	—	2.19	28.19	35.43
1936 ...	20	" ...	52	—	1.99	35.60	40.63
1937 ...	21	" ...	40½	60.5	1.97	30.67	38.27
1929 ...	4	Lincoln Reds ...	33½	—	2 3½	28.39	35.30
1930 ...	8	" ...	60½	—	2 0½	31.60	35.01
1931 ...	8	" ...	28	—	2 1½	31.00	33.50
1932 ...	5	" ...	30	—	1 10	36.65	26.10
1933 ...	4	" ...	57	—	1 11½	32.82	30.40
1934 ...	3	" ...	80	—	1 10½	26.78	30.50
1935 ...	10	" ...	53	—	2.22	26.53	35.62
1936 ...	7	" ...	62	—	2.33	26.58	47.97
1937 ...	5	" ...	52½	63.2	1.95	32.60	39.83
1929 ...	16	British Friesians ...	31¾	—	1 15½	37.78	31.37
1930 ...	19	" ...	64½	—	1 14	32.65	32.18
1931 ...	16	" ...	34	—	2 3	34.60	35.15
1932 ...	30	" ...	28	—	1 15½	35.48	32.02
1933 ...	19	" ...	28	—	2 5½	30.17	37.74
1934 ...	16	" ...	42	—	2 5	33.36	38.92
1935 ...	19	" ...	34	—	2.33	30.17	37.58
1936 ...	20	" ...	44	—	2.32	31.15	46.06
1937 ...	21	" ...	28	78.0	2.45	32.93	45.53
1929 ...	3	South Devons ...	95	—	2 6½	26.65	44.03
1930 ...	6	" ...	47¾	—	2 3	26.68	35.54
1931 ...	9	" ...	54	—	2 3	25.70	37.10
1932 ...	10	" ...	65	—	1 13¾	27.26	32.57
1933 ...	14	" ...	34	—	1 14	26.40	30.10
1934 ...	12	" ...	39	—	2 2½	26.20	35.02
1935 ...	10	" ...	50	—	2.24	23.52	35.90
1936 ...	12	" ...	36	—	2.64	22.85	52.32
1937 ...	7	" ...	49	46.7	1.99	23.50	41.31
1929 ...	1	Devons ...	39	—	1 9	30.60	25.00
1930 ...	2	" ...	30	—	1 0½	34.32	23.35
1932 ...	4	" ...	103	—	1 5	27.31	27.12
1934 ...	4	" ...	76	—	1 11½	25.19	31.50
1935 ...	4	" ...	42	—	1.95	27.66	31.37
1929 ...	13	Red Polls ...	43	—	1 9	31.72	26.01
1930 ...	23	" ...	52½	—	1 10½	33.25	38.73
1931 ...	12	" ...	50	—	1 13½	30.04	32.82
1932 ...	10	" ...	56	—	1 12½	32.64	30.77
1933 ...	16	" ...	73	—	1 10	31.53	28.75
1934 ...	26	" ...	58	—	1 9	32.84	27.33
1935 ...	28	" ...	28	—	1.96	27.41	31.42
1936 ...	19	" ...	40	—	1.99	29.27	40.19
1937 ...	9	" ...	81	55.3	1.43	38.58	30.94

* In 1936 and 1937 an extra 10 points were awarded for quality.

TABLE II.—NUMBER OF CATTLE OF THE VARIOUS BREEDS TESTED SINCE 1928, WITH THEIR AVERAGE PERIOD OF LACTATION, WEIGHT OF BUTTER, BUTTER RATIOS AND POINTS.—*Continued.*

Year	No.	Breed.	Average No. of Days in Milk.	Average Yield of Milk.	Average Weight of Butter.	Average Butter Ratio.	Average No. of Points.*
				lbs.	lbs. ozs.	lbs.	
1929 ...	2	Blue Albions ...	31	—	1 13½	31.64	29.25
1930 ...	1	" ...	58	—	2 8½	22.90	40.50
1931 ...	1	" ...	26	—	1 10	30.10	26.00
1933 ...	4	Welsh Blacks ...	42	—	1 13½	29.66	30.43
1934 ...	3	" ...	46	—	1 5	39.07	21.81
1935 ...	6	" ...	31	—	2.01	23.66	32.33
1936 ...	2	" ...	36	—	2.14	26.78	42.87
1929 ...	18	Ayrshires ...	37½	—	2 1	29.53	33.43
1930 ...	21	" ...	54	—	2 2	27.02	34.05
1931 ...	21	" ...	35	—	2 4½	27.20	36.10
1932 ...	22	" ...	35	—	2 3½	23.72	36.58
1933 ...	12	" ...	34	—	2 3½	25.84	35.83
1934 ...	30	" ...	32	—	2 5½	25.60	37.28
1935 ...	22	" ...	29	—	2.35	26.17	37.63
1936 ...	27	" ...	28	—	2.34	24.44	45.00
1937 ...	26	" ...	28½	64.8	2.26	28.67	42.10
1929 ...	10	Guernseys ...	84	—	2 0½	24.17	37.16
1930 ...	12	" ...	49	—	1 14	27.14	32.42
1931 ...	20	" ...	96	—	1 13½	24.80	34.35
1932 ...	12	" ...	80	—	1 11½	26.09	31.23
1933 ...	20	" ...	87	—	1 11	25.28	30.95
1934 ...	16	" ...	94	—	1 14½	24.27	36.01
1935 ...	21	" ...	102	—	2.07	22.40	33.30
1936 ...	17	" ...	76	—	2.12	23.83	47.33
1937 ...	11	" ...	86½	47.2	1.78	26.51	39.16
1929 ...	22	Jerseys ...	145	—	1 13½	19.86	37.94
1930 ...	22	" ...	37	—	1 14	15.09	37.61
1931 ...	18	" ...	108	—	2 4	10.90	42.39
1932 ...	27	" ...	113	—	2 0½	20.34	37.76
1933 ...	24	" ...	87	—	2 2	21.18	38.05
1934 ...	25	" ...	100	—	2 3½	20.69	41.27
1935 ...	22	" ...	118	—	2.28	19.97	36.56
1936 ...	37	" ...	101	—	2.12	21.42	48.49
1937 ...	28	" ...	90½	44.6	2.07	21.56	45.24
1929 ...	4	Kerries ...	89	—	1 9	25.82	29.66
1930 ...	1	" ...	47	—	2 1	23.00	33.00
1931 ...	4	" ...	41	—	1 7	28.80	23.95
1932 ...	1	" ...	92	—	2 0½	20.93	37.70
1934 ...	5	" ...	68	—	2 3	20.22	38.82
1936 ...	2	" ...	75	—	0.97	29.07	40.00
1929 ...	4	Dexters ...	112	—	1 6	25.51	29.04
1930 ...	5	" ...	35	—	1 5½	26.45	23.89
1931 ...	5	" ...	106	—	0 14½	29.70	21.07
1932 ...	5	" ...	153	—	1 1½	26.67	25.67
1933 ...	7	" ...	109	—	1 0½	28.01	28.59
1934 ...	3	" ...	143	—	1 5	25.36	30.23
1935 ...	1	" ...	161	—	1.59	25.41	37.50
1936 ...	4	" ...	103	—	1.33	25.89	35.40

* In 1936 and 1937 an extra 10 points were awarded for quality.

TABLE III.—AVERAGE YIELD OF BUTTER OF THE DIFFERENT BREEDS SINCE 1928.

Year.	Breed.	No. of Cows.	Days in Milk, 14-50.	No. of Cows.	Days in Milk, 51-100.	No. of Cows.	Days in Milk, 101-135.	No. of Cows.	Days in Milk, 136 & over.
			lbs. ozs.		lbs. ozs.		lbs. ozs.		lbs. ozs.
1929	Shorthorns	17	1 10 $\frac{3}{4}$	6	1 6	3	1 3 $\frac{1}{2}$	1	—
1930	"	10	1 7	7	1 13 $\frac{3}{4}$	3	1 7	1	2 0 $\frac{1}{2}$
1931	"	35	1 14 $\frac{1}{2}$	6	1 11 $\frac{1}{2}$	4	1 11	1	1 8
1932	"	19	1 7 $\frac{1}{2}$	5	1 9	—	—	—	2 0 $\frac{1}{2}$
1933	"	35	1 15	—	—	3	1 10	—	—
1934	"	34	1 15	6	1 11	2	1 1 $\frac{1}{2}$	—	—
1935	"	17	2-21	4	1-86	—	—	1	1-5
1936	"	10	2-03	9	1-91	1	2-34	—	—
1937	"	16	1-08	5	1-96	—	—	—	—
1929	Lincoln Reds	4	2 3 $\frac{1}{2}$	—	—	—	—	—	—
1930	"	4	2 3	2	2 3 $\frac{1}{2}$	2	1 10 $\frac{1}{2}$	—	—
1931	"	8	2 1 $\frac{1}{2}$	—	—	—	—	—	—
1932	"	5	1 10	—	—	—	—	—	—
1933	"	3	1 14 $\frac{1}{2}$	—	—	—	—	1	1 2 $\frac{1}{2}$
1934	"	2	1 8	—	—	—	—	1	1-15 $\frac{1}{2}$
1935	"	7	2-45	1	1-75	1	1-65	1	1-62
1936	"	4	2-76	2	1-71	—	—	1	1-93
1937	"	4	2-13	—	—	—	—	1	1-22
1929	British Friesians	15	1 14	1	2 13	—	—	—	—
1930	"	14	2 0	5	1 14 $\frac{1}{2}$	—	—	—	—
1931	"	15	2 3 $\frac{1}{2}$	—	—	1	1 10	—	—
1932	"	27	2 2	3	1 9 $\frac{3}{4}$	—	—	—	—
1933	"	18	2 5	1	1 15	—	—	—	—
1934	"	12	2 6 $\frac{1}{2}$	2	1 8 $\frac{1}{2}$	1	2 5 $\frac{1}{2}$	1	3 1
1935	"	18	2-38	1	1-415	—	—	—	—
1936	"	16	2-33	3	2-22	1	2-50	—	—
1937	"	21	2-45	—	—	—	—	—	—
1929	South Devons	1	3 6	1	1 17	—	—	1	2 6 $\frac{1}{2}$
1930	"	6	2 3 $\frac{1}{2}$	—	—	—	—	—	—
1931	"	2	2 0 $\frac{1}{2}$	—	—	1	2 15 $\frac{1}{2}$	1	2 0 $\frac{1}{2}$
1932	"	0	1 12 $\frac{1}{2}$	7	1 14 $\frac{1}{2}$	1	2 0	2	1 14 $\frac{1}{2}$
1933	"	13	1 13	1	3 0	—	—	—	—
1934	"	9	2 2 $\frac{1}{2}$	3	2 1	—	—	—	—
1935	"	8	2-33	1	2-12	—	—	1	1-62
1936	"	11	2-71	1	1-87	—	—	—	—
1937	"	4	1-94	3	2-05	—	—	—	—
1929	Devons	1	1 9	—	—	—	—	—	—
1930	"	—	—	1	0 9 $\frac{1}{2}$	—	—	1	1 8 $\frac{1}{2}$
1932	"	1	1 4	1	1 2	1	1 12	1	1 2 $\frac{1}{2}$
1934	"	—	—	3	2 0	1	0 15 $\frac{1}{2}$	—	—
1935	"	3	1-98	1	1-9	—	—	—	—
1929	Red Polls	9	1 9 $\frac{1}{2}$	4	1 8 $\frac{3}{4}$	—	—	—	—
1930	"	12	1 10 $\frac{1}{2}$	8	1 10	2	1 7	1	2 7
1931	"	9	1 15 $\frac{3}{4}$	2	1 9	—	—	1	2 6 $\frac{1}{2}$
1932	"	5	2 0 $\frac{1}{2}$	4	1 9 $\frac{3}{4}$	—	—	1	1 6 $\frac{1}{2}$
1933	"	5	1 12	9	1 9 $\frac{1}{2}$	1	1 8	—	—
1934	"	14	1 11	9	1 6	1	2 6 $\frac{1}{2}$	2	0 15 $\frac{1}{2}$
1935	"	18	2-23	7	1-619	2	1-635	1	2-03
1936	"	15	2-03	4	1-85	—	—	—	—
1937	"	2	1-91	5	1-40	1	1-14	1	0-91

TABLE III.—AVERAGE YIELD OF BUTTER OF THE DIFFERENT BREEDS SINCE 1928.—*Continued.*

Year.	Breed.	No. of Cows.	Days in Milk, 14-50.	No. of Cows.	Days in Milk, 51-100.	No. of Cows.	Days in Milk, 101-135.	No. of Cows.	Days in Milk, 136 & over.
			lbs. ozs.		lbs. ozs.		lbs. ozs.		lbs. ozs.
1929	Blue Albions	2	1 13 $\frac{1}{2}$	—	—	—	—	—	—
1930	"	1	2 8 $\frac{1}{2}$	—	—	—	—	—	—
1931	"	1	1 10	—	—	—	—	—	—
1933	Welsh Black	3	2 2	1	1 12	—	—	—	—
1934	"	2	1 7 $\frac{1}{2}$	1	0 15 $\frac{1}{2}$	—	—	—	—
1935	"	6	2 01	—	—	—	—	—	—
1936	"	2	2 14	—	—	—	—	—	—
1929	Ayrshires	14	2 2	4	1 15	—	—	—	—
1930	"	20	2 2 $\frac{1}{2}$	1	1 10 $\frac{3}{4}$	—	—	—	—
1931	"	18	2 4 $\frac{1}{2}$	3	1 14 $\frac{1}{2}$	—	—	—	—
1932	"	19	2 3 $\frac{1}{2}$	2	2 9	1	2 2	—	—
1933	"	10	2 2 $\frac{1}{2}$	2	2 8	—	—	—	—
1934	"	30	2 5 $\frac{1}{2}$	—	—	—	—	—	—
1935	"	22	2 35	—	—	—	—	—	—
1936	"	27	2 34	—	—	—	—	—	—
1937	"	25	2 29	1	1 58	—	—	—	—
1929	Guernseys	4	2 01 $\frac{1}{2}$	3	2 8 $\frac{1}{2}$	1	1 15	2	1 7
1930	"	5	1 10 $\frac{1}{2}$	5	2 1 $\frac{1}{2}$	—	—	2	1 11 $\frac{1}{2}$
1931	"	4	1 13 $\frac{1}{2}$	9	1 13 $\frac{1}{2}$	3	1 11 $\frac{3}{4}$	2	1 8 $\frac{1}{2}$
1932	"	5	1 8	3	1 8	2	2 4	2	1 14 $\frac{1}{2}$
1933	"	8	1 14 $\frac{1}{2}$	5	1 12 $\frac{1}{2}$	4	1 7	1	0 14 $\frac{1}{2}$
1934	"	2	2 1	8	1 15 $\frac{1}{2}$	4	1 13 $\frac{1}{2}$	2	1 10 $\frac{1}{2}$
1935	"	7	2 34 $\frac{1}{2}$	5	1 70 $\frac{1}{2}$	4	2 126	3	2 07 $\frac{1}{2}$
1936	"	9	2 21	1	2 11	1	1 95	2	1 73
1937	"	3	2 26	5	1 74	1	1 20	2	1 47
1929	Jerseys	2	1 8	5	2 2 $\frac{1}{2}$	—	—	9	1 11
1930	"	3	1 15 $\frac{1}{2}$	7	1 15 $\frac{1}{2}$	4	1 15	9	1 14 $\frac{1}{2}$
1931	"	5	2 7 $\frac{1}{2}$	3	2 4	4	2 1	5	2 4
1932	"	5	2 1	7	2 3 $\frac{1}{2}$	6	2 3	7	1 12 $\frac{1}{2}$
1933	"	10	2 1 $\frac{1}{2}$	3	2 3 $\frac{1}{2}$	7	2 1	2	2 7
1934	"	4	2 5 $\frac{1}{2}$	9	2 5	5	2 2 $\frac{1}{2}$	5	2 2
1935	"	4	2 58	5	2 516	5	2 24	4	2 12
1936	"	9	2 04	11	2 26	6	1 90	7	2 18
1937	"	10	2 04	6	2 13	4	1 88	8	2 15
1929	Kerries	1	2 3 $\frac{1}{2}$	3	15 $\frac{1}{2}$	—	—	—	—
1930	"	1	2 1	—	—	—	—	—	—
1931	"	2	1 8 $\frac{1}{2}$	2	1 6	—	—	—	—
1932	"	—	—	1	2 0 $\frac{1}{2}$	—	—	—	—
1934	"	2	2 6 $\frac{1}{2}$	2	1 15 $\frac{1}{2}$	—	—	1	2 2 $\frac{1}{2}$
1936	"	1	1 94	—	—	—	—	—	—
1929	Dexters	—	—	2	1 8 $\frac{1}{2}$	—	—	2	1 3 $\frac{1}{2}$
1930	"	3	1 6	1	1 5	1	1 5	—	—
1931	"	—	—	2	1 0 $\frac{1}{2}$	2	1 0	1	0 8
1932	"	—	—	—	—	3	1 2	1	1 2 $\frac{1}{2}$
1933	"	1	1 0 $\frac{1}{2}$	1	0 11	1	1 7	3	1 0 $\frac{1}{2}$
1934	"	—	—	1	1 12 $\frac{1}{2}$	—	—	2	2 1
1935	"	—	—	—	—	—	—	1	1 59
1936	"	1	1 01	1	1 49	—	—	2	1 41

BUTTER TESTS—SHORTHORNS.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1937.	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio, viz. lbs. Milk to lbs. Butter	No. of Points for Butter	No. of Points for Lactation	Total Number of Points for Quality	Awards
							Morn.	Aft.	Even.	Total						
							lbs.	lbs.	lbs.	lbs.						
1	C. J. Allday	Fothering Eggs-2nd	1346	Apr. 21, 1932	Sept. 23	27	23.1	22.3	23.3	68.7	2 10	26.17	42.00	—	7	49.00 3rd Prize
2	P. R. L. Savill	Countess Clara 3rd	1608	July 28, 1928	Oct. 2	18	16.7	17.4	17.1	51.2	2 43	22.29	36.75	—	10	46.75 4th Prize
7	King's College Farms	Holmescales Furbelow 3rd	1237	Mar. 28, 1932	Oct. 3	17	21.5	20.7	21.2	63.4	2 3	28.98	35.00	—	6	41.00 H.C.
8	F. Chapman	Sizergh Primrose ...	1326	Sept. 4, 1930	Sept. 12	38	20.4	18.3	16.5	55.2	1 8	36.86	24.00	—	6	30.00
9	F. Chapman	Chevet Clover ...	1285	Oct. 2, 1930	July 22	90	20.9	20.6	21.4	62.9	1 93	39.47	25.50	5.0	5	35.50
11	Sir Martin J. Melvin, Bt.	Copsale Wild Eyes 15th	1408	Sept. 15, 1931	Sept. 9	41	20.9	22.2	20.8	63.9	1 143	33.53	30.50	0.1	6	36.60
13	J. Crowe	Oxford Rosette ...	1238	May 13, 1931	Sept. 3	47	23.4	22.3	22.1	67.8	1 103	41.33	26.25	0.7	5	31.95
15	W. Clarkson & Sons	Lenborough	1146	Dec. 7, 1931	Sept. 20	30	17.4	17.2	18.6	53.2	1 12	30.40	28.00	—	5	33.00
18	W. H. Vigus	Revels Maggie's Mabel	1093	Oct. 20, 1931	Sept. 21	29	15.4	17.2	16.7	49.3	1 143	25.65	30.75	—	7	37.75
23	T. W. M. Perkins	Homclacy	1311	Nov. 27, 1932	Sept. 12	38	22.3	23.9	21.8	68.0	1 83	43.96	24.75	—	3	27.75
26	Capt. A. S. Wills...	Kinglet 32nd	1200	Mar. 13, 1933	Sept. 16	34	20.2	18.4	19.2	57.8	2 13	27.46	33.75	—	6	39.75 H.C.
27	Capt. A. S. Wills...	Duchess 7th	1083	Sept. 20, 1933	Sept. 14	36	21.7	21.4	22.8	65.9	2 63	27.57	38.25	—	6	44.25 7th Prize
28	Sir Martin J. Melvin, Bt.	Copsale Wild Eyes 16th	1175	Dec. 12, 1932	Aug. 30	51	23.3	24.2	23.9	71.4	2 8	28.56	40.00	1.1	5	46.10 5th Prize
29	Sir Martin J. Melvin, Bt.	Dainty Princess 12th	1484	Apr. 28, 1933	Sept. 12	38	18.0	20.9	20.8	59.7	2 6	25.14	38.00	—	5	43.00 8th Prize
34	W. H. Vigus	Revels Tulip 2nd ...	1484	Nov. 1, 1932	Aug. 18	63	17.2	19.3	15.8	52.3	1 83	34.16	24.50	2.3	7	33.80
35	W. H. Vigus	Revels Princess Pearl	1088	Aug. 26, 1933	Aug. 13	68	19.1	20.3	19.7	59.1	2 3	27.02	35.00	2.8	7	44.80 6th Prize
36	J. Cronk	Cromarby Brimstage	1496	Sept. 17, 1932	Sept. 18	32	24.7	24.0	22.9	71.6	1 14	38.10	30.00	—	5	35.00

BUTTER TESTS—SHORTHORNS—Continued.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1937.	No. of Days in Milk	Milk Yield				Butter Yield lbs ozs		Ratio, viz., lbs. Milk to lbs. Butter	No. of Points for Butter	No. of Points for Lactation	No. of Points for Quality	Total Number of	Awards
							Morn.	Aft.	Even.	Total	lbs.	lbs.						
61	J. Day ...	Huxham Duchess	1180	Dec. 27, 1934	Sept. 16	34	16.7	18.2	17.3	52.2	1 12	29.33	28.00	—	0	34.00	H.C.	
63	Cambridge University Farm	Rose 9th	1506	Oct. 21, 1931	Sept. 6	44	22.1	23.1	21.6	66.8	2 10½	25.00	42.75	0.4	8	51.15	2nd Prize	
64	King's College	Mary ...	1399	Dec. 7, 1931	Aug. 24	57	24.6	24.5	24.4	73.5	1 15½	37.04	31.75	1.7	8	41.45	Reserve.	
70	W. J. Borlase & Sons	Betty ...	1256	1931	Oct. 3	17	12.4	12.0	11.5	35.9	1 1	33.79	17.00	—	4	21.00		
79	King's College	Saltfleet Evelyn 2nd	1610	Dec. 21, 1927	Sept. 15	35	22.9	23.0	21.8	66.7	2 0½	33.33	32.50	—	5	37.50		
80	F. Russell Wood ...	Bendish Pansy 29th	1328	May 29, 1933	Sept. 4	46	18.9	17.0	20.6	56.5	1 8½	30.53	24.75	0.6	7	32.35		
82	Clivers & Sons, Ltd.	Histon Fanny 8th...	1400	Dec. 3, 1930	Oct. 2	18	21.6	21.5	21.1	64.2	2 10½	24.17	42.50	—	9	51.50	1st Prize	
83	J. Evens & Son ...	Burton Venetia 2nd	1353	Nov. 5, 1930	Sept. 24	26	25.8	24.9	23.1	73.8	2 4½	34.54	30.50	—	6	42.50	9th Prize	
84	J. Evens & Son ...	Burton Royal Starlight 17th	1193	May 10, 1933	June 4	138	15.5	18.7	15.8	50.0	1 3½	41.02	10.50	0.8	0	35.30		

BUTTER TESTS—SHORTHORNS—Continued.

No. in Catalogue	Name of Animal	CHURNING—TIME AND TEMPERATURE				
		Time		Temperature °F.		
		Churning began	Churning finished	Duration of Churning	Dairy	Buttermilk when churning finished
				Minutes	Degrees	Degrees
1	Fothering Foggathorpe 2nd ...	10 34 a.m.	12 5 p.m.	91	62	57
2	Countess Clara 3rd ...	10 45 "	11 10 a.m.	25	62	56
7	Bombasties Furvelow 3rd ...	10 54 "	10 31 "	26	62	56
8	Sizeligh Primrose ...	10 54 "	11 10 "	16	62	54
9	Chevel, Cress Wild ...	10 5 "	10 35 "	30	62	54
11	Copsea Wild Eyes 15th ...	9 34 "	10 2 "	28	62	54
13	Copsea Rosette ...	10 2 "	10 27 "	25	62	55
15	Leithborough Fillhall 50th ...	10 17 "	10 38 "	21	62	55
18	Revels Maggie's Mabel ...	11 40 "	12 10 p.m.	30	62	55
23	Homelacy Ringlet 32nd ...	9 40 "	10 12 a.m.	32	62	55
26	Thornby Darling Duchess 7th ...	10 24 "	10 50 "	26	62	55
27	Thornby Barrington Duchess 9th ...	10 55 "	11 12 "	17	62	54
28	Copsale Wild Eyes 16th ...	10 25 "	10 55 "	30	62	55
29	Dainty Princess 12th ...	10 56 "	11 27 "	31	62	55
34	Revels Tulip 2nd ...	10 25 "	10 46 "	21	62	55
35	Revels Princess Pearl ...	10 2 "	10 25 "	23	62	55
36	Cronmarbury Primstige ...	11 0 "	11 25 "	25	62	54
61	Ruxham Duchess Rose 9th ...	11 0 "	11 40 "	40	62	55
63	Ruxham Flora 6th ...	11 20 "	11 42 "	22	62	55
64	Maday ...	10 45 "	11 20 "	35	62	54
70	Saltfleet Evelyn 2nd ...	10 35 "	10 57 "	22	62	56
79	Beardish Pansy 29th ...	10 42 "	11 2 "	40	62	55
80	Heron Fanny 8th ...	11 22 "	11 53 "	31	62	56
82	Burton Venetia 2nd ...	11 57 "	12 17 p.m.	20	62	54
83	Burton Venetia 2nd ...	11 25 "	11 55 a.m.	30	62	52
84	Burton Royal Starlight 17th ...	11 20 "	12 22 p.m.	62	62	64

BUTTER TESTS—BRITISH FRIESIANS.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last calf 1937.	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio, viz., lbs. Milk to lbs. Butter	No. of Points for Butter	No. of Points for Lactation	No. of Points for Quality	Total Number of	Awards
							Morn.	Aft.	Even.	Total							
							lbs.	lbs.	lbs.	lbs.							
94	Lord Rayleigh's Farms	Terling Torch	1258	Mar. 5, 1932	Sept. 26	24	28-0	23-2	23-7	74-9	2 13 $\frac{1}{2}$	25-10	47-75	—	8	55-75	4th Prize
100	Strutt & Parker (Farms), Ltd.	Lavenham Annie	1487	Oct. 20, 1930	Sept. 27	23	26-0	27-3	26-1	79-4	2 5 $\frac{1}{2}$	33-05	37-75	—	5	42-75	H.C.
101	Strutt & Parker (Farms), Ltd.	Lavenham Trifolium	1324	Sept. 14, 1931	Sept. 23	27	28-9	26-8	27-4	83-1	3 3 $\frac{1}{2}$	25-09	51-75	—	7	58-75	3rd Prize
102	Strutt & Parker (Farms), Ltd.	Lavenham Unique	1637	July 10, 1930	Sept. 10	40	31-1	30-6	31-2	92-9	2 11 $\frac{1}{2}$	34-37	43-25	—	3	46-25	Reserve
104	Hodge Bros. ...	Fintloch Goodluck	1455	Mar. 23, 1932	July 18	94	32-0	28-0	27-1	87-1	Not eligible for award.		—	—	—	—	—
108	Miss S. Whitnall ...	Codbury Nalu 2nd...	1353	July 10, 1929	Sept. 11	39	26-9	27-1	23-3	77-3	1 10 $\frac{1}{2}$	46-24	26-75	—	7	33-75	—
109	W. Twentymann ...	Winchester Stella ...	1604	Oct. 17, 1930	Sept. 21	29	26-7	30-6	28-3	85-6	2 3	37-13	35-00	—	7	42-00	H.C.
110	W. Twentymann ...	Winchester Beatrice	1477	Oct. 18, 1929	Sept. 21	29	25-2	23-1	25-9	76-2	1 11 $\frac{1}{2}$	44-33	27-50	—	9	36-50	—
111	W. Twentymann ...	Winchester Medea...	1408	Aug. 1, 1931	Sept. 13	37	24-9	25-0	24-8	74-7	2 1 $\frac{1}{2}$	35-08	33-50	—	8	41-50	H.C.
112	T. H. Merrick ...	Hurdlesgrove Pel Julia	1256	Feb. 4, 1928	Sept. 21	29	26-0	24-0	25-3	75-3	1 6 $\frac{1}{2}$	53-55	22-50	—	5	27-50	—
114	T. H. Merrick ...	Hurdlesgrove Pel Betty 2nd	1252	Oct. 31, 1931	Sept. 28	22	30-0	29-7	29-0	88-7	3 6 $\frac{1}{2}$	25-02	54-75	—	8	62-75	1st Prize
121	J. H. Brown ...	Marshgreen Kathleen 2nd	1462	June 26, 1932	Sept. 23	27	27-5	26-6	26-6	80-7	2 7 $\frac{1}{2}$	32-48	30-75	—	7	46-75	9th Prize
123	H. C. Alexander ...	Kenton Blossom ...	1422	Dec. 6, 1931	Sept. 21	29	27-0	30-9	27-5	85-4	2 4 $\frac{1}{2}$	37-44	36-50	—	6	42-50	H.C.
125	W. Curtis & Son ...	Abingworth Ilene ...	1355	Jan. 2, 1933	Sept. 28	22	27-5	30-6	30-1	88-2	2 10 $\frac{1}{2}$	33-20	42-50	—	6	48-50	8th Prize
126	W. Curtis & Son ...	Piddington Alice ...	1396	June 30, 1934	Sept. 20	30	22-8	22-1	23-6	68-5	2 5 $\frac{1}{2}$	29-03	37-75	—	5	42-75	H.C.
127	C. Ball ...	Oakham Dainty Gem	1529	Oct. 2, 1932	Sept. 21	29	28-2	30-1	29-8	88-1	3 3 $\frac{1}{2}$	27-24	51-75	—	3	54-75	5th Prize
129	Hodge Bros. ...	Fintloch Hilary ...	1264	July 26, 1933	Oct. 1	19	21-6	21-9	21-8	65-3	1 9 $\frac{1}{2}$	40-57	25-75	—	6	31-75	—

BUTTER TESTS—BRITISH FRIESIANS—Continued.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1937.	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio, viz., lbs. Milk to lbs. Butter	No. of Points for Butter	No. of Points for Lactation	No. of Points for Quality	Total Number of Points	Awards
							Morn.	Aft.	Even.	Total							
							lbs.	lbs.	lbs.	lbs.							
132	A. Weightman ...	Herrington Maureen	1496	Nov. 5, 1932	Sept. 22	28	29.4	25.8	25.8	81.0	2 11 29.97	43.25	—	—	6	40.25	7th Prize
135	H. C. Alexander ...	Kenion Tigress 2nd	1374	June 6, 1934	Sept. 29	21	22.1	22.0	22.7	66.8	2 13 23.62	45.25	—	—	7	52.25	6th Prize
137	T. Brown ...	Middlewich Sylvia...	1322	Jan. 5, 1934	Sept. 20	30	30.4	30.0	28.4	88.8	3 4 26.03	52.75	—	—	8	60.75	2nd Prize
143	C. Ball ...	Oakham Freda ...	1163	Sept. 29, 1934	Sept. 25	25	18.7	10.4	21.4	59.5	1 11 34.31	27.75	—	—	6	33.75	H.C.

BUTTER TESTS—BRITISH FRIESIANS—Continued.

CHURNING—TIME AND TEMPERATURE							
No. In Catalogue.	Name of Animal	Time			Temperature ° F.		
		Churning began	Churning finished	Duration of Churning	Dairy	Cream and Churn	Buttermilk when churning finished
94	Terling Torch 66th ...	11 40 a.m.	11 57 a.m.	17	62	52	56
100	Lavenham Annie 29th ...	11 10 "	11 30 "	20	62	52	52
101	Lavenham Trifolium 6th ...	2 10 p.m.	2 30 p.m.	20	64	52	53
102	Lavenham Unique 8th ...	11 12 a.m.	11 55 a.m.	43	62	52	56
104	Finlooh Goodluck ...	—	—	—	—	—	—
108	Codbury Nain 2nd ...	11 52 a.m.	12 28 p.m.	36	62	52	56
109	Winchester Stella ...	11 47 "	12 15 "	28	62	52	64
110	Winchester Beatrice ...	11 57 "	12 20 "	23	62	52	64
111	Winchester Medea ...	11 35 "	11 55 a.m.	20	62	52	54
112	Hurdlesgrove Pel Betty 2nd...	11 32 "	12 40 p.m.	68	64	52	57
114	Hurdlesgrove Pel Betty 2nd...	2 21 p.m.	3 5 "	44	64	52	56
121	Marshgreen Kathleen 2nd	11 53 a.m.	12 25 "	32	62	52	53
123	Kenton Blossom ...	2 10 p.m.	2 30 "	20	64	52	50
125	Abingworth Ellen ...	11 50 "	11 37 a.m.	22	62	52	54
126	Abingworth Alice ...	11 50 "	12 28 p.m.	38	62	52	56
127	Oakham Dainty Gem ...	2 10 p.m.	2 30 "	20	64	52	54
129	Finlooh Hilary ...	12 15 "	12 40 "	25	63	52	52
132	Herrington Maureen ...	2 8 "	2 30 "	22	63	52	54
135	Kenton Tigriss 2nd ...	2 13 "	2 57 "	44	64	52	55
137	Middlewich Sylvia ...	2 8 "	2 38 "	30	64	52	54
143	Oakham Freda ...	2 16 "	2 35 "	19	64	52	53

BUTTER TESTS—RED POLLS.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1937.	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio, viz., lbs. Milk to lbs. Butter	No. of Points for Butter	No. of Points for Lactation	No. of Points for Quality	Total Number of	Awards
							Morn.	Aft.	Even.	Total							
							lbs.	lbs.	lbs.	lbs.							
168	Col. H. E. Hambro	Moreton Girl 14th...	1577	Feb. 11, 1928	Sept. 23	27	20-1	27-0	27-6	81-6	2 3	37-30	35-00	—	4	39-00	
169	Stuart Paul	Kirton Sundial ...	1181	Jan. 27, 1932	Aug. 22	59	28-5	28-0	27-3	84-7	2 7 1/2	34-53	30-25	1-9	2	43-15	1st Prize
170	Stuart Paul	Kirton Duplex ...	1201	Feb. 19, 1930	Aug. 26	55	16-4	21-7	21-5	59-6	1 0 1/2	57-79	10-50	1-5	3	21-00	
172	Stuart Paul	Meddler Sparkle ...	1231	Feb. 7, 1930	Aug. 19	62	16-3	17-5	17-7	51-5	1 8 1/2	33-29	24-75	2-2	5	31-05	
173	Mrs. H. D. Lewis...	Latimer Primrose 3rd	1382	July 29, 1920	Sept. 27	23	17-8	18-8	15-3	51-9	1 10 1/2	31-03	26-25	—	3	29-25	
179	Stuart Paul	Kirton Oaken ...	1157	Nov. 5, 1932	May 6	167	9-8	11-2	9-9	30-9	0 14 1/2	34-10	14-50	12-0	4	30-50	
180	Stuart Paul	Kirton Fantasy ...	1176	Aug. 15, 1932	May 29	144	16-7	15-8	15-0	47-5	1 2 1/2	41-04	18-25	10-4	5	33-65	
181	Stuart Paul	Kirton Lilyrose ...	1278	Feb. 18, 1934	July 16	96	16-3	17-0	16-3	49-6	1 5 1/2	36-49	21-75	5-6	4	31-35	
184	Mrs. M. L. Griffith	Hallingbury Ruby 3rd	1157	May 22, 1933	July 16	96	12-1	14-5	13-8	40-4	0 10	64-04	10-0	5-6	3	18-6	

BUTTER TESTS—RED POLLS—Continued.

No. in Catalogue	Name of Animal	CHURNING—TIME AND TEMPERATURE			
		Time		Temperature °F.	
		Churning began	Churning finished	Dairy	Buttermilk when churning finished
				Degrees	Degrees
168	Morston Girl 14th	2 20 p.m.	2 53 p.m.	64	58
169	Kirton Sundial	5 0 "	5 15 "	64	55
170	Kirton Duplex	4 55 "	5 25 "	64	55
172	Maidler Sparkle	4 11 "	4 30 "	64	55
173	Latimer Primrose 3rd	3 46 "	4 15 "	64	58
179	Kirton Oaken	3 55 "	4 35 "	64	56
180	Kirton Fantasy	4 16 "	4 47 "	64	54
181	Kirton Lilyrose	4 13 "	4 48 "	64	56
184	Hallingbury Ruby 3rd	3 44 "	4 17 "	64	58

BUTTER TESTS—AYRSHIRES.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio, viz., lbs. Milk to lbs. Butter	No. of Points for Butter	No. of Points for Lactation	No. of Points for Quality	Total Points	Awards
					1937.		Morn.	Aft.	Even.	Total							
							lbs.	lbs.	lbs.	lbs.							
194	L. Langnead ...	Compton Rosetta ...	1104	Sept. 16, 1930	Sept. 18	32	27.8	25.2	24.5	77.5	2 11	37.01	33.50	—	4	37.50	
197	A. W. Montgomerie	Lessnessock Lottie 2nd	1204	May 9, 1930	Oct. 1	19	21.4	18.7	20.5	60.6	2 31	27.12	35.75	—	7	42.75	H.C.
198	W. L. Ferguson ...	Calmveil Brownie...	1163	Mar. 17, 1931	Sept. 23	27	22.5	21.9	22.4	66.8	1 81	43.02	24.50	—	2	26.5	
201	W. & J. Logan ...	South Craig Miss	1266	Nov. 27, 1927	Oct. 1	19	20.1	20.3	19.3	59.7	2 15	20.00	47.75	—	8	55.75	4th Prize
203	D. Mackay ...	Garston Orange Blossom	1204	Nov. 12, 1931	Sept. 28	22	20.9	21.5	22.7	65.1	2 01	25.10	41.50	—	8	49.5	7th Prize
204	A. Cochrane ...	Elmhirst Kihva ...	1172	Jan. 1, 1932	Sept. 22	28	23.5	23.6	22.4	69.5	1 81	44.03	24.75	—	5	29.75	
206	B. Barbour ...	Relief Lady Grace	1028	Apr. 16, 1931	Sept. 19	31	26.2	23.7	24.8	74.7	2 15	25.30	47.25	—	5	52.25	5th Prize
208	J. R. P. Hedley ...	Glenside Nancy ...	1088	Nov. 18, 1930	Aug. 28	53	19.4	21.8	20.8	62.1	1 01	39.35	25.25	1.3	7	33.55	
210	Graham Bros. ...	Barr Milkmaid ...	1127	Nov. 14, 1928	Sept. 27	23	24.5	25.3	25.5	75.3	2 81	20.57	40.75	—	6	46.75	9th Prize
211	Graham Bros. ...	Griffel Cherry 2nd...	1070	Mar. 19, 1931	Sept. 26	24	18.5	19.2	20.0	57.7	2 12	20.63	44.75	—	7	51.75	6th Prize
213	A. Watson ...	Barbough Lillas 28th	1216	Dec. 14, 1933	Oct. 3	17	24.6	25.3	24.4	74.3	3 51	22.22	53.50	—	7	60.50	2nd Prize
214	J. M. Logan ...	Meadowbank Betty	1339	Mar. 13, 1933	Sept. 10	40	28.5	27.1	25.9	81.5	2 51	35.01	37.25	—	4	41.25	H.C.
215	D. Smith ...	Kilmours Maids Mernaide	1081	Oct. 2, 1933	Sept. 24	26	25.4	24.4	26.3	76.1	2 4	33.82	36.00	—	5	41.00	H.C.
219	A. W. Montgomerie	Drumcock Lizzie 2nd	1132	Sept. 29, 1933	Sept. 13	37	26.6	22.1	20.8	69.5	2 7	28.51	39.00	—	5	44.00	10th Prize
221	A. W. Montgomerie	Hill Duchess 16th ...	1181	Mar. 1, 1932	Aug. 31	50	22.0	21.3	21.0	64.3	1 51	48.42	21.25	1.0	4	26.25	
222	W. L. Ferguson ...	Calmveil Barbara	1136	Mar. 29, 1933	Oct. 3	17	15.0	14.8	13.6	43.4	2 21	20.27	34.25	—	6	40.25	H.C.
224	A. Cochrane ...	Nether Craig Milk 7th Girl	1203	Nov. 10, 1932	Sept. 26	24	26.8	24.9	22.7	74.4	2 31	33.53	35.50	—	6	41.50	H.C.

BUTTER TESTS—AYRSHIRES—Continued.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight	Date of Birth	Date of last Calf	No. of Days in Milk	Milk Yield				Butter Yield	Ratio, viz., lbs. Milk to lbs. Butter	No. of Points for Butter	No. of Points for Lactation	No. of Points for Quality	Total Number of Points	Awards
			lbs.		1937.		Morn.	Aft.	Even.	Total	lbs. ozs.						
							lbs.	lbs.	lbs.	lbs.							
229	E. B. Caldecott	Caigton Swan	1120	Oct. 31, 1933	Sept. 22	28	19-0	18-1	18-7	55-8	1 15	28-80	31-00	—	6	37-00	H.C.
230	H. Wyllie	Bruchag Princess	1316	Aug. 25 1932	Sept. 22	28	26-0	25-1	25-5	76-6	2 11½	28-34	43-25	—	5	48-25	8th Prize
232	H. Wyllie	Auchenbainzie	1124	Oct. 6, 1932	Sept. 17	33	21-6	22-3	20-0	63-9	1 13	35-26	29-00	—	4	33-00	
235	J. A. Rennie	Mona 4th Kirkton Diana	1232	Jan. 7, 1933	Sept. 29	21	26-0	24-9	25-2	70-1	3 8½	21-05	56-25	—	7	63-25	1st Prize
237	R. Mackay	Bruchag Ellen	1229	Mar. 7, 1934	Oct. 1	19	15-4	16-0	15-7	47-1	2 3	21-53	35-00	—	8	43-00	Reserve
242	J. M. Logan	Beauchamps Aster	1120	Sept. 6, 1934	Sept. 15	35	21-4	19-8	18-9	60-1	3 1½	19-43	49-50	—	8	57-50	3rd Prize
243	D. Smith	Kilmaurs Maids Mernauid 2nd	981	Sept. 8, 1934	Sept. 4	46	15-6	15-3	14-3	45-2	1 5½	33-64	21-50	0-6	5	27-10	
252	J. Bone	Sheepcote Relish	1035	Sept. 14, 1934	Sept. 19	31	24-0	22-9	22-4	69-3	2 2	32-61	34-00	—	6	40-00	H.C.
257	Capt. W. B. Dronsfield	South Craig Cunderella	1050	Nov. 27, 1934	Oct. 3	17	11-2	13-6	12-2	37-0	1 1½	33-35	17-75	—	7	24-75	

BUTTER TESTS—AYRSHIRES—Continued.

No. in Catalogue	Name of Animal	CHURNING—TIME AND TEMPERATURE					
		Time		Temperature °F.			
		Churning began	Churning finished	Duration of Churning	Dairy	Cream and Churn	Buttermilk when churning finished
				Minutes	Degrees	Degrees	Degrees
194	Compton Rosetta	4 15 p.m.	4 45 p.m.	30	64	53	
197	Lessnessock Lottie 2nd	4 6	4 35	29	64	53	
198	Cairnwell Brownie	3 32	3 57	25	64	53	
201	South Craig Miss Mabel	3 19	3 33	14	64	58	
203	Garston Orange Blossom	5 18	5 55	37	64	64	
204	Elmhurst Khiva	3 57	4 35	38	64	55	
206	Relief Lady Grace 2nd	3 47	4 10	23	64	54	
208	Glenside Nancy	3 40	4 40	60	64	50	
210	Barr Milkmaid	3 25	3 48	23	64	58	
211	Craff Cherry 2nd	4 15	4 42	27	64	53	
213	Barbough Lilies 28th	4 59	5 20	21	64	54	
214	Meadowbank Betty	3 5	3 35	30	64	53	
215	Kilmours Mains Milkmaid	3 37	4 5	28	64	56	
219	Dunmork Lizzie 2nd	2 54	3 17	23	64	58	
221	Hill Duchess 10th	3 13	3 45	32	64	56	
222	Cairnwell Barbara 7th	2 58	3 15	17	64	54	
224	Nedder Craig Milk Girl	3 9	3 42	33	64	55	
229	Caigton Swan	2 43	3 30	47	64	60	
230	Bruchag Princess	3 10	3 37	27	64	56	
232	Auchenbanzie Mona 4th	2 43	3 8	25	64	53	
235	Kirkton Diana	5 15	5 30	15	64	54	
237	Bruchag Ellen	3 22	3 44	22	64	53	
242	Beauchamps Aster	3 52	4 20	28	64	54	
243	Kilmours Mains Milkmaid 2nd	2 44	3 15	31	64	56	
252	Sheepcote Relish	3 5	4 17	72	64	52	
257	South Craig Cinderella	2 12	2 43	21	64	55	

BUTTER TESTS—GUERNSEYS.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1937.	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio, viz., lbs. Milk to lbs. Butter	No. of Points for Butter	No. of Points for Lactation	No. of Points for Quality	Total Number of Points	Awards
							Morn.	Even.	Total	lbs.							
271	A. T. Lloyd	Lockinge Lady	1008	May 6, 1932	Oct. 1	19	18-0	17-2	17-4	52-6	2	8½ 20-78	40-50	—	4	44-50	2nd Prize
273	Capt. H. J. Pribrow	Belle 6th Vera's Pride of the Queen's	1084	Sept. 18, 1929	Sept. 21	29	20-1	20-4	17-5	58-0	2	1½ 27-70	33-50	—	8	41-50	4th Prize
275	S. R. Hicks	Broad Oak Madge...	1378	Oct. 25, 1931	Aug. 23	58	10-8	17-7	18-6	56-1	2	4½ 24-59	36-50	1-8	6	44-30	3rd Prize
278	Hon. A. E. Guinness	Serena of Myrtle Place	1066	Dec. 21, 1931	Aug. 21	60	16-2	15-8	16-1	48-1	1	13½ 25-87	20-75	2-0	7	38-75	6th Prize
279	Hon. A. E. Guinness	Way's Primrose ...	1102	Dec. 27, 1931	Sept. 9	41	20-8	24-6	22-7	68-1	2	2½ 31-81	34-25	0-1	4	38-35	Reserve
280	J. Brooke	Bealings Rose's Dequesa	1128	May 21, 1934	June 13	129	8-9	9-9	10-5	29-3	1	3½ 24-35	10-25	8-9	8	30-13	H.C.
281	Capt. H. J. Pribrow	Lassie Darling of Mapleton	844	June 28, 1933	Aug. 10	71	16-8	16-7	15-3	48-8	1	12 27-89	28-00	3-1	7	38-10	H.C.
284	Hon. A. E. Guinness	Holmbury Pride 5th	1021	Oct. 24, 1933	Aug. 13	68	12-5	14-2	12-5	39-2	1	6½ 28-19	22-25	2-8	7	32-05	H.C.
285	J. Brooke	Bealings Wild Rose 2nd	944	Jan. 15, 1935	April 2	201	12-9	12-9	12-9	38-7	1	9½ 24-38	25-50	12-0	8	45-50	1st Prize
289	S. R. Hicks	Wendy of Les Billocks	797	Dec. 25, 1934	Aug. 5	70	15-9	15-8	15-5	47-2	1	6½ 33-56	22-50	3-6	6	32-10	H.C.
290	H. A. Y. Dyson	Floss of Payhay ...	807	Aug. 2 1934	April 7	196	11-0	11-4	11-1	33-5	1	5½ 24-03	21-50	12-0	6	39-50	5th Prize

BUTTER TESTS—GUERNSEYS—Continued.

No. in Catalogue.	Name of Animal	CHURNING—TIME AND TEMPERATURE					
		Time			Temperature °F.		
		Churning began	Churning finished	Duration of Churning	Dairy	Cream and Churn	Buttermilk, when churning finished
				Minutes	Degrees	Degrees	Degrees
271	Lockinge Lady Belle 6th	3 16 p.m.	3 48 p.m.	32	64	52	55
273	Vera's Pride of the Queen's	2 34 "	3 0 "	26	64	52	56
275	Broad Oak Madge	5 20 "	5 55 "	35	64	52	60
278	Serena of Myrtle Place	3 8 "	3 43 "	40	64	52	54
279	Way's Primrose	2 8 "	2 30 "	22	64	52	56
280	Beallings Rose's Dequesa	2 10 "	2 45 "	35	64	52	58
281	Lassie Darling of Marleton	2 6 "	2 30 "	24	64	52	54
284	Holmbury Pride 5th	2 3 "	2 20 "	17	64	52	56
285	Beallings Wild Rose 2nd	2 2 "	2 30 "	28	64	52	56
289	Wendy of Les Bilecs	2 5 "	2 38 "	33	64	52	56
290	Floss of Paymay	12 0 "	12 50 "	50	63	52	62

BUTTER TESTS—JERSEYS.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1937.	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio, viz., lbs. Milk to lbs. Butter	No. of Points for Butter	No. of Points for Lactation	No. of Points for Quality	Total Number of Points	Awards
							Morn.	Aft.	Even.	Total							
							lbs.	lbs.	lbs.	lbs.							
293	Ovaltine Dairy Farm	Eucalia's Jest.	893	July 20, 1929	May 19	154	15-7	16-1	15-2	47-0	1 12½	26-16	28-75	11-4	8	48-15	H.C.
294	Ovaltine Dairy Farm	Playmate of Oaklands	866	May 17, 1929	Aug. 8	73	15-6	18-0	16-4	50-0	2 2½	23-36	34-25	3-3	8	45-55	H.C.
295	Ovaltine Dairy Farm	Kafovie	882	June 20, 1931	Aug. 17	64	16-5	18-4	18-6	53-5	1 15½	27-17	31-50	2-4	10	43-90	H.C.
296	W. E. Press	Wolvers Jenny	1033	Nov. 26, 1931	Mar. 27	207	20-1	14-0	13-0	47-1	3 7½	13-52	55-75	12-0	10	77-75	1st Prize
297	Lt.-Col. W. Elwes	Serene	840	Apr. 17, 1931	June 6	136	10-9	10-6	11-7	33-2	1 8½	21-08	24-50	9-6	8	42-10	H.C.
298	M. F. North	Wolton Bella	1037	June 25, 1930	Aug. 16	65	18-0	21-9	16-9	56-8	2 7½	23-15	30-25	2-5	8	49-75	Reserve
300	Mrs. G. J. Caddey	Duchess at Arms	908	May 20, 1931	Sept. 24	26	13-9	14-7	15-7	44-3	1 13½	24-03	20-50	—	7	36-50	
301	Sir J. B. Lloyd	Foxbury Valentine	940	June 11, 1931	May 3	170	18-3	17-3	16-0	51-6	2 6½	21-44	38-50	12-0	6	56-50	4th Prize
302	Mrs. A. M. Hall	Elizabeth's Beauty	898	Feb. 25, 1929	Aug. 30	51	14-8	14-9	14-3	44-0	1 11½	25-37	27-75	1-1	7	35-85	
304	Miss G. M. Yule	April Winnie	908	April 1, 1930	May 24	149	14-4	10-8	12-1	37-3	2 2½	17-42	34-25	10-9	8	53-15	7th Prize
305	Mrs. E. Allfrey	Elfin	1000	June 26, 1927	Sept. 22	28	15-7	16-9	16-5	49-1	2-14	17-08	40-00	—	6	52-00	8th Prize
306	J. W. McCallum	Pearcelands Eileen	1028	July 2, 1931	June 6	137	21-9	18-6	18-6	59-1	2 12½	21-13	44-75	9-6	7	61-35	3rd Prize
308	Ovaltine Dairy Farm	Pansy of Oakdale	826	Aug. 6, 1932	May 23	150	7-6	10-0	8-6	26-2	1 4½	20-20	20-75	11-0	6	37-75	H.C.
309	Ovaltine Dairy Farm	Ovaltine Orchis	847	Aug. 26, 1934	Sept. 18	32	14-6	15-1	15-4	45-1	2 2½	21-07	34-25	—	7	41-25	H.C.
312	Lt.-Col. W. Elwes	Majesty's Serenader	791	Dec. 18, 1933	Aug. 31	50	14-8	15-0	15-0	44-8	2 1½	21-24	33-75	1-0	6	40-75	H.C.
314	M. F. North	Conyloro	875	Sept. 29, 1933	Aug. 16	65	19-3	18-9	18-8	57-0	2 12½	20-49	44-50	2-5	7	54-00	6th Prize
316	Mrs. H. I. Pitman	Premature 6th Scarlett's Alquamare	750	Mar. 22, 1933	Sept. 10	40	19-8	18-4	17-8	56-0	3 0½	18-47	48-50	—	6	54-45	5th Prize

BUTTER TESTS—JERSEYS—Continued.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1937.	No. of Days in Milk	Milk Yield				Butter Yield		Ratio, viz., lbs. Milk to lbs. Butter	No. of Points for Butter	No. of Points for Lactation	No. of Points for Quality	Total Number of Points	Awards
							Morn. lbs.	Aft. lbs.	Even. lbs.	Total lbs.	lbs.	lbs. ozs.						
317	Mrs. H. I. Pittman	Robin's Spotted Daisy	768	June 24, 1933	Sept. 19	31	12-3	10-1	17-9	40-3	1 13 $\frac{3}{4}$	21-07	20-75	—	6	35-75		
320	Miss G. M. Yule ...	The Poplar's Pride Girl	798	June 24, 1934	June 9	133	11-6	11-7	11-5	34-8	1 15 $\frac{1}{2}$	17-08	31-50	0-3	9	49-80	9th Prize	
321	Mrs. A. M. Hall ...	Oxford's Mabel's Girl 2nd	787	Nov. 30, 1933	Aug. 7	74	12-8	13-0	13-0	38-8	1 11 $\frac{1}{2}$	22-57	27-50	3-4	6	36-90	H.C.	
323	Mrs. A. M. Hall ...	Wotton Alfy Fairy	909	July 17, 1934	June 28	114	16-0	13-7	12-8	42-5	1 9 $\frac{1}{2}$	26-03	25-25	7-4	6	38-65	H.C.	
325	Mrs. H. Hawkins...	Everdon Tecla Pearl	815	Mar. 10, 1934	Apr. 13	190	13-7	14-5	13-5	41-7	1 11 $\frac{3}{4}$	24-04	27-75	12-0	7	46-75	H.C.	
327	Mrs. H. Hawkins...	Pagari's June Girl...	664	June 18, 1934	June 15	127	13-9	13-5	10-6	38-0	1 2 $\frac{1}{2}$	33-32	18-25	8-7	6	32-05		
329	Lady Hervey-Bathurst, O.B.E.	Beetha's Fern Beauty	720	Mar. 9, 1934	Sept. 27	23	15-9	15-3	14-6	45-8	2 0 $\frac{1}{2}$	22-57	32-50	—	8	40-50	H.C.	
330	H. S. Mountain ...	Groombridge Jersey Blue Belle	872	Mar. 12, 1933	Aug. 31	50	16-4	12-1	18-2	46-7	1 3 $\frac{3}{4}$	37-83	10-75	1-0	6	26-75		
331	The Ladies C. Ryder & A. Anson	Mermaid 2nd ...	840	Dec. 22, 1933	June 23	119	17-1	16-6	16-5	50-2	2 13	17-85	45-00	7-9	9	61-9	2nd Prize	
339	Mrs. A. M. Hall ...	Slipton Snowdrop...	672	Sept. 22, 1935	Sept. 9	41	10-9	10-6	11-0	32-5	1 8 $\frac{1}{2}$	21-44	24-25	0-1	7	31-35	H.C.	
341	Mrs. H. Hawkins...	Standards Simple Maid	734	Aug. 25, 1935	Sept. 21	29	10-6	11-7	12-1	34-4	1 11 $\frac{3}{4}$	10-88	27-75	—	7	34-75	H.C.	

BUTTER TESTS—JERSEYS—Continued.

No. in Catalogue	Name of Animal	CHURNING—TIME AND TEMPERATURE					
		Time		Temperature °F.			
		Churning began	Churning finished	Duration of Churning	Dairy	Cream and Churn	Buttermilk when churning finished
				Minutes	Degrees	Degrees	Degrees
293	Eucalia's Jest ...	12 7 p.m.	12 23 p.m.	16	63	52	53
294	Playmate of Oaklands	2 8 "	2 37 "	29	64	52	52
295	Kafoite	2 2 "	2 25 "	23	64	52	55
296	Wolvers Jenny	2 48 "	3 15 "	27	64	52	54
297	Sereue ...	11 45 a.m.	12 25 "	40	62	52	56
298	Wotton Bella Donna	9 7 "	9 26 a.m.	19	62	52	56
300	Duchess at Arms	9 9 "	9 24 "	15	62	52	54
301	Foxbury Valentine 2nd	9 11 "	9 25 "	14	62	52	54
302	Elizabeth's Beauty	9 17 "	9 43 "	26	62	52	54
304	April Vinile	9 13 "	9 40 "	27	62	52	55
305	Elfin	9 15 "	9 27 "	12	62	52	52
306	Pearcelands Eileen 10th	9 50 "	10 17 "	27	62	52	56
308	Pansy of Oakdale	9 44 "	10 10 "	26	62	52	54
309	Ovalfine Orchis	9 16 "	9 50 "	34	62	52	60
312	Majesty's Sereader	9 20 "	9 56 "	36	62	52	60
314	Conyboro Prenature 6th	10 10 "	11 4 "	54	62	52	56
316	Scarlett's Aquamarine	9 30 "	9 50 "	20	62	52	54
317	Robin's Spotted Daisy	9 33 "	10 10 "	37	62	52	55
320	The Poplar's Pride Girl	9 40 "	10 35 "	55	62	52	56
321	Oxford's Mabel's Girl 2nd	9 26 "	10 0 "	34	62	52	56
323	Wotton Airy Fairy	9 7 "	9 54 "	47	62	52	56
325	Everdon Tecla Pearl	9 18 "	9 48 "	30	62	52	56
327	Pazar's June Girl	11 10 "	11 40 "	30	62	52	57
329	Beethia's Fern Beauty	9 52 "	10 15 "	23	58	52	58
330	Groombridge Jersey Blue Belle	10 12 "	10 45 "	33	62	52	55
331	Mernald 2nd ...	10 42 "	11 42 "	60	62	52	56
339	Shipton Snowdrop	9 50 "	10 7 "	17	62	52	54
341	Standards Simple Maid	10 5 "	10 30 "	25	62	52	54

BUTTER TESTS—OTHER BREEDS.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1937.	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio, viz. lbs. Milk to lbs. Butter	No. of Points for Butter	No. of Points for Lactation	No. of Points for Quality	Total Number of Points	Awards
							Morn.	Aft.	Even.	Total							
SOUTH DEVON.																	
155	W. Hunt ...	Diptford Downs Milkmaid 13th	1551	Apr. 13, 1930	July 17	95	17.5	20.5	20.1	58.1	2 12	21.13.44.00	5.5	8	57.5	Prize of £3	
158	J. T. Dennis ...	Winsor Alma ...	1373	Mar. 10, 1931	Sept. 13	37	18.2	19.1	18.1	55.4	2 2	20.07.34.00	—	9	43.00	Reserve	
160	V. Bunday ...	Westerland Anne ...	1350	Dec. 14, 1933	Sept. 8	42	20.0	18.5	18.8	57.3	2 6½	23.81.38.50	0.2	10	48.70	Prize of £2	
161	J. T. Dennis ...	Winsor Alma 2nd ...	1190	Sept. 20, 1933	Aug. 19	02	15.3	15.6	14.7	45.6	1 14½	23.02.30.50	2.2	6	38.70	H.C.	
163	W. Hunt ...	Diptford Downs Milkmaid 28th	1180	Jan. 21, 1935	Sept. 20	30	13.1	13.0	13.7	39.8	1 12	22.74.28.00	—	7	35.00	H.C.	
164	Miss J. Smith ...	Sandwell Cowslip ...	1290	Sept. 17, 1934	Aug. 23	58	13.7	12.3	11.9	37.9	1 7½	25.53.25.75	1.8	7	32.55	H.C.	
165	G. Wills ...	Rydon Milkmaid 11th	1425	Oct. 2, 1934	Oct. 2	18	11.0	10.9	10.7	32.6	1 7½	21.06.23.75	—	10	33.75	H.C.	

BUTTER TESTS—OTHER BREEDS—Continued.

No. in Catalogue.	Name of Animal	CHURNING—TIME AND TEMPERATURE					
		Time			Temperature °F.		
		Churning began	Churning finished	Duration of Churning	Dairy	Cream and Churn	Buttermilk, when churning finished
				Minutes	Degrees	Degrees	Degrees
SOUTH DEVON.							
155	Diptford Downes Milkmaid 13th ...	2 7 p.m.	2 38 p.m.	31	64	52	57
158	Winsor Alma ...	3 10 "	3 44 "	34	64	52	56
160	Westerland Anne ...	2 56 "	4 0 "	64	64	52	58
161	Winsor Alma 2nd ...	3 35 "	4 25 "	50	64	52	56
163	Diptford Downes Milkmaid 28th ...	3 47 "	4 17 "	30	64	52	56
164	Sandwell Cowslip ...	3 26 "	4 10 "	44	64	52	56
165	Rydon Milkmaid 11th ...	2 46 "	3 30 "	44	64	52	56

POULTRY SECTION—DAIRY SHOW, 1937.

By W. J. GOLDING.

The Fifty-ninth Annual Show of the British Dairy Farmers' Association must go down to posterity as one of the best ever held, and it is pleasing to record that the Poultry section—in spite of the counter-attraction of another show being held in London—was in every way a big success; the crowds in the galleries, and the same great reunion of fanciers, made the event a most interesting and happy one. Despite what may be said to the contrary, the Dairy Show at Islington, to the poultry industry, continues as the one great institution of the year. The entries were somewhat down in numbers, but what was lacking in numbers was made up fully in quality and the high excellence of the exhibits throughout the Show has never been excelled.

As usual the weather was on its best behaviour throughout the week. The light for judging on the opening day was excellent, and the arrangements, in the capable hands of the Chief Steward, Mr. J. H. Brown, worked smoothly. At the time when the galleries were opened to the public everything was in order.

The big and varied display of poultry appliances on the increased number of stands made a most imposing display, and was an attraction in itself. The demand of the industry for back-to-nature rearing brought out many new and improved designs of outdoor small unit rearers; also manufacturers have given attention to improvements in the ventilation of poultry houses.

The classes for inventions in poultry appliances brought forth quite a good entry, and the judging for same was again entrusted to Messrs. C. N. Goode and John Taylor, whose report will be found on another page.

TABLE POULTRY AND EGGS.

The standard for quality was, on the whole, much better than seen at last year's Show. One notable feature was the absence of very large coarse birds; exhibitors are conforming to present-day requirements in producing medium size chicken, young and soft in flesh, and the judge was consistent in awarding the prizes to birds of quality in preference to weight. The two Silver Medals offered by the Worshipful Company of Poulters are confined to birds under a certain weight, which made the awarding of same rather difficult as several first-class pairs were ruled out through being over weight; in the end only one medal was awarded and this went to Mrs. E. M. King for

her Sussex and Game cross cockerels, a beautifully matched pair, excelling in meatiness of breast, and first-rate quality in flesh.

The market packs, with an entry of 74 in the 3 classes, made a show in themselves and the general quality was very good and better than last year. The score card system of judging is most interesting to the public in viewing the exhibits, but places a most difficult and exacting task upon the judges. Several good packs were penalised by the boxes arriving in damaged condition, or by the exhibitor using a type of case, which obviously suited his pocket, but from a marketing point of view was most unsatisfactory; moreover, certain entries were disqualified for overweight, and two exhibits not being delivered by the railway company were debarred from competing. The conditions are plainly set forth in the schedule, and exhibitors have only themselves to blame for their carelessness in not ensuring full compliance therewith. Special mention must be made of the exhibits of British Poultry Development. Their phenomenal success in winning all first and second prizes, and obtaining the Gold and Silver Medals in such strong competition, is a remarkable achievement.

Eggs.—In the classes for one dozen, to be exhibited on plates, the judge again complains of the freshness of some of the exhibits, and in candling found a great variation in air space, denoting the age to three weeks. In his opinion, eggs had specially been saved for the Dairy Show, and the desired freshness had been ignored. In the Dominion class the judge gave a very exhaustive examination, weighed the eggs in bulk, and singly, and candled several layers in each case before making his decisions.

CHAMPIONSHIPS.

The Show this year was for the first time held under Poultry Club rules and several extra challenge trophies were available for competition. The judging was entrusted to Messrs. Harold Corrie, Ralph Alty and H. Jones Robbins, and was carried out on the afternoon of the opening day. The "Isherwood" Perpetual Challenge Trophy and Gold Medal for the best bird in the Show was awarded to Mr. A. Jonas' Indian Game pullet; this exhibitor also claimed the Poultry Club's Sixty Guinea Challenge Trophy for the best female exhibited by a member of that club. The Poultry Club Sixty Guinea Challenge Trophy for the best male was awarded to Messrs. H. Underwood & Son for their Light Sussex cockerel. The "Morrison" Perpetual Challenge Trophy for the best Utility Bird went to the winning White Wyandotte cockerel exhibited by Homelea Poultry Farm, Ltd.

LIVE POULTRY.

Dorkings consisted of only two classes of Silvers, the class for Any Other Colour being cancelled. The quality of the exhibits was good and the winners well selected; the medal was awarded to the winning pullet exhibited by Mr. W. G. Watson; this entry was a long typical bird, rare colour, and with good feet. *Brahmas* are in too few breeders' hands, but made a brave show for this old breed. The Bronze Medal was awarded to Mr. T. Leyson, with a finely pencilled pullet.

Cochins had two classes of mixed colours and made a good show. Mr. S. J. Ballard won the medal with his white pullet.

Wyandottes, with eleven classes scheduled, were not strong numerically; the class for Gold or Silver Laced cockerels was cancelled and in the remaining classes just a fair average entry was obtained. *Whites* as usual were the strongest in numbers, and although nothing like so good as in former years, contained birds of exceptional merit. The remaining colours were weak in numbers, but quality generally was good. The Silver Medal for the best Wyandotte was awarded to Homelea Poultry Farm, Ltd., for their White pullet, a charming bird, very well shown.

Sussex, taken collectively, made quite a good section, although the Brown classes were cancelled. *Lights* as customary were the best filled classes, though the *Whites* and *Speckled* had excellent entries. Quality throughout the breed was quite up to average and the winning Light cockerel shown by Messrs. H. Underwood & Son well merited the medal, being of good type, pure in top colour, with an extra well-defined hackle, making him an outstanding winner; this bird subsequently won the Poultry Club Challenge Trophy for the best male bird in the Show, owned by a member of the Poultry Club. The winning White cockerel exhibited by Mr. W. Hodges came in for special comment, being one of the best yet exhibited.

Orpingtons, with both Blue classes cancelled, were disappointing in numbers, and had it not have been for the two well-filled classes for Buffs, the entry would have been very much down on previous years. The *Buffs* seem to be coming back to their old-time popularity, this no doubt being brought about through breeders realising present-day requirements and rigidly keeping to a type of useful dual-purpose fowl. The Black pullet exhibited by Miss N. Shanks was awarded the Silver Medal.

Croad Langshans contained two well-filled classes. This breed deserves recognition for all-round utility purposes and it was pleasing to see the excellent classes on view. The winning cockerel shown by Mr. S. H. Willcox well deserved the medal.

Plymouth Rocks were a nice collection and the quality throughout was really high. The *Barred* pullet shown by Mr. J. Fawcett was awarded the medal. It is pleasing to note an improvement in this variety; birds are now shown with much more stamina. *Bufs* were not so numerous as in previous years, but quality was level generally in the two classes.

Faverolles were disappointing in numbers and the two *Any Other Colour* classes were cancelled. It is a pity such a first class table breed is in so few breeders' hands; the pullets were of better quality than the cockerels and the winning medal bird of Mrs. Clive's stood out in her class.

Barnevelders, in which the classes were reduced this year to two instead of six, provided good entries. The quality was quite up to average, and Mr. L. Sweet secured the medal with his winning cockerel.

Anconas made quite a good show with an entry of 28 in the two classes, and quality was as good as has been seen for some years. The winning *Roscomb* pullet exhibited by Mr. A. Southerin was distinctly a good bird for the medal.

Campines were not a particularly strong lot as only 20 exhibits faced the judge in the three classes provided; it is surprising that the good laying and foraging qualities of this breed have not made it more popular than it appears to be.

Bresse.—This is a breed that seems to be dying out; the entries get less and less each year.

Silkies.—Three classes, average in number and of good quality were on view. The *Bronze Medal* pullet exhibited by Mr. R. L. Fairley could not be denied her position.

Minorcas, for some unaccountable reason, were down in entries—a most surprising fact for this Show—and considering the utility properties of this good old breed, it was disappointing to see such poor classes. On the other hand a great improvement has been brought about during the past few years by the birds having a much less exaggerated head piece. The medal-winning pullet shown by Mr. W. Fisher was all that could be desired in a good utility fowl; apart from her excellent colour, she was beautifully balanced, and looked all over a typical layer.

Andalusians.—This good old breed is in far too few breeders' hands and it is a pity such a useful fowl for the egg farmer should appear to be gradually dying out.

Leghorns were disappointing in numbers, *Brown* pullets were cancelled, but the cockerels which were on view were of grand quality. *Whites* did better, and were quite of the ideal

standard type. *Blacks* were also down in numbers and not up to the usual level in quality. The *Any Other Colour* classes were better filled and contained some good exhibits. The Silver Medal for the best Leghorn was awarded to the White pullet exhibited by Mr. and Mrs. Harbottle.

British Jersey Giants.—Somehow this breed is losing ground and unless one sees better filled classes, their place in the schedule may be lost.

Rhode Island Reds.—Once again this breed held pride of place, and made a splendid display, and the quality was very level throughout. Taken as a whole, the cockerels were a bit better in this respect than the pullets. Mr. G. H. Muzzlewhite's cockerel was awarded the medal, and well merited this distinction; it excelled in colour, with plenty of size and a neat, well-set head.

Indian Game came up well in numbers—34 entries in the two classes is good. A halt seems to have been made in the very low stance, and extra heavy bone, all for the good of the breed, and yet still an improvement in this respect can be carried out. This breed is in great demand for crossing purposes for table poultry, and fertility is prejudiced by these very low wide set males. A most pleasing fact, however, was that the champion bird was found in this grand old breed, the honour falling to the winning pullet exhibited by Mr. A. Jonas.

Jubilee Indian Game.—This breed seems on the up grade and calls for more recruits to help fill the classes.

Old English Game entries were considerably down on last year, and were the smallest seen for many years. It was most disappointing to see such poor support from exhibitors; however, the quality was quite up to the high standard usually seen here. The Silver Medal was awarded the winning pullet shown by Mr. H. B. Turner.

BREEDING PENS.

The mated trios were well staged and attracted much attention. The public are greatly interested in these classes, and competition was very keen and close throughout the section, and judging must have been a difficult matter. The cup-winning pen of White Wyandottes exhibited by Homelea Poultry Farm, Ltd., came in for much favourable comment; they were so evenly matched and faultlessly shown, and well deserved the honour of securing the "Quill" Trophy for the best breeding pen. Mr. A. Jonas was the winner in the Any Other Variety class with a well-selected pen of Indian Game, and the Homelea Poultry Farm, Ltd., secured the first prize in the remaining class with a good pen of Brown Leghorns, exhibited in splendid fettle.

UTILITY POULTRY.

Following up my remarks in last year's Journal, I am wondering how long it will be before we see a discontinuance of duplication of classes styled "Exhibition" and "Utility." This practice has slowly crept in since the war, and schedules have catered for the same breed in two different sections of the Show. At the present time, with less exhibitors supporting the exhibitions, it seems that show executives should seriously consider whether this custom should not cease. With the same judges officiating in both sections and more often than not, the same exhibitors winning both sets of prizes, the class results become a mere duplication of awards. The Utility Section always fills better at the Dairy Show than any other show throughout the year, nevertheless a standard bred bird in most breeds is a utility fowl, whether in a laying breed such as the Leghorn, or in the heavier varieties, say the Sussex for table purposes. As an exhibitor, perhaps, it is not in my personal interest that this suggestion should come about, but I do feel that if shows were to revert back to pre-war classification, and judges, in making their awards, rigidly kept to the standards drawn up by the breed clubs, and penalised exaggerations of any kind, in the long run it would be to the advantage of everybody concerned.

BANTAMS.

Modern Game drew about the usual number of entries, and the judge was most consistent in sticking to that type and condition which befits a Game fowl. The Silver Medal went after very keen competition to the Birehin pullet exhibited by Mr. J. H. Floyd.

Old English Game.—These classes were much better filled than their bigger brethren, and were brimful of quality throughout; again, as a breeder of Game, the judge was most careful in awarding the prizes to birds in hard fighting trim, and his decisions were well received. The medal-winning Blue hen shown by Mr. H. H. Blair was a marvel for fitness and well deserved the award; this bird as a pullet won the same coveted prize at the 1936 Show. *Variety Bantams* contained some well filled classes, and in the *Frizzle* and *Polish* classes quality ran very high; *Wyandottes* again were strong both in numbers and quality and difficult to judge. *Indian Game* as usual were well represented and two good classes came before the judge. It was here that the best male variety Bantam was found in the winning cock exhibited by Mr. A. Jonas; the Silver Medal for the best female variety Bantam was awarded the winning Partridge hen, exhibited by Mr. J. Wallbank, a miniature Wyandotte for type in every sense of the word.

WATERFOWL, &C.

Ducks were only a moderate entry in numbers, but contained exhibits of the usual high standard one is accustomed to see at this Show. *Aylesburys* were the best filled classes, and must have been very difficult to judge. The winning drake exhibited by Messrs. J. Huntley & Son secured the medal for the best bird in the section.

Geese, on the other hand, were but small classes, but the winning Toulouse gander of Mr. H. Whitley's was an easy winner of the Silver Medal.

Turkeys made quite a good show in the seven classes provided. The Bronze variety were of large weights—a feature of the breed; Whites seem to be gaining popularity, their weight meeting present-day requirements, and Blues seem not far behind in this respect. The Bronze cockerel exhibited by Mr. H. Woollatt was awarded the Silver Medal, his weight being 26½ lbs. at the time of judging.

FINIS.

My notes would be incomplete without just a word of praise to Mr. F. J. Bull, our Secretary, and the staff at 28, Russell Square, for the able arrangements made. I again repeat I am astonished and disappointed that, with the poultry industry playing such a big part in the success of the Dairy Show, those directly concerned, both exhibitors and standholders, should remain aloof from joining the British Dairy Farmers' Association. The advantages of membership far outweigh the small annual subscription of £1, and it is now hoped that, as the Show is held under the rules of The Poultry Club, we shall have the pleasure of welcoming many new members before the next Show comes round.

PIGEON SECTION—DAIRY SHOW, 1937.

By W. S. BROCKLEHURST, J.P.

The Fifty-ninth Annual Show of the British Dairy Farmers' Association was held on October 19th, 20th, 21st and 22nd, 1937, at the Agricultural Hall, Islington, London. Throughout the week the weather was not too good. Tuesday morning was favoured with a good day and fair light was available for the judging of the exhibits, which was finished in good time to allow the waiting public to be admitted to the galleries to see the results of the many judges' hard morning's work.

The galleries were not too crowded and the attendance during the whole of the Show was not up to the average of previous years. The entries of Pigeons were down somewhat in numbers, no doubt due to the new rule that there must be at least three different exhibitors in a class, otherwise it will be cancelled; this I regret to say necessitated the cancellation of several classes. I also regret to note that, through death, several big exhibitors' names were not on the catalogue. The last two years have taken a heavy toll of many great breeders and exhibitors of pigeons.

In the pigeon section this year there were 2,538 entries as compared with 2,606 in 1936, 2,539 in 1935, 2,471 in 1934, 2,611 in 1933, 2,396 in 1932, which is quite a good average. Most of the judges report that in their sections the quality was good throughout in most classes, the same view being shared by the many fanciers who visited the Show during the week.

The winners of the several British Dairy Farmers' Association Trophies and Silver Medals were all pigeons of great merit and a great credit to their respective breeders and owners, who are to be congratulated on their fine achievements. Mr. J. H. Smith, of Peel's Farm, Churchgate, Southport, very kindly acted as judge of these Trophies, and after a hard and painstaking job selected from the wonderful lot of nominated birds of each breed those which were to be the winners of these much-coveted Association Trophies.

To celebrate the Coronation of His Gracious Majesty King George VI, the Council of the British Dairy Farmers' Association decided to offer a Silver Spoon, enamelled and suitably engraved, for the best bird in each class of Poultry and Pigeons where twelve or more entries were present, with the result that 121 Silver Spoons (41 for Poultry, 80 for Pigeons) were given to winners.

The Association Trophies winners were as follows:—

The Association's Gold Medal for the best pigeon in the Show bred in the current year was awarded to Pen 1102, Class 106, Messrs. Henderson Bros.' Long-Faced Self Tumbler Black Cock. Reserve, Pen 25, Class 3. Mr. T. Wilkinson's Blue Dragon Cock.

The Jones Memorial Trophy for the best adult pigeon in the Show was awarded to Pen 1899, Class 174, Mr. W. Prince Smith's English Owl Adult Cock. Reserve, Pen 2453, Class 231, Mr. F. H. Jarvis' White Fantail Hen.

The Esquilant Challenge Trophy awarded to the best bird bred in the current year in Section No. 3 between the following breeds—Jacobins, Fantails, Carriers and Barbs—was awarded to Pen 2505, Class 237, Mr. D. Blackadder's Fantail Hen. Reserve, Pen 1890, Class 173, Mr. J. Robertson's Jacobin.

The Fulton Challenge Trophy awarded to the best bird bred in the current year in Section No. 6 between the following breeds—Oriental Frills, Modenas and Other Varieties not classified above—was awarded to Pen 327, Class 33, Messrs. W. S. and R. W. Brocklehurst's Young Black Gazzi Modena Cock. Reserve, Pen 1410, Class 144, Dr. J. S. Peebles' Fairy Swallow.

The Doctor C. H. Tattersall's Challenge Trophy awarded to the best bird bred in the current year between Dragoons and Modenas alternately this year went to Modenas, and was awarded to Pen 327, Class 33, Messrs. W. S. and R. W. Brocklehurst's Young Black Gazzi Modena Cock.

The N.P.A. Challenge Certificates this year numbered 52 as compared with 60 in 1936, 54 in 1935.

The following is an account of different breeds exhibited at the 1937 Dairy Show:—

Dragoons numbered 259 entries in 26 classes, two classes cancelled, as compared with 233 entries in 30 classes last year—an increase of 26. Mr. H. Albert judged the Adults and Yearlings and Mr. A. McDougall judged the 1937 birds.

Mr. A. McDougall reports that the young birds came up well, the Blues and Blue Chequers being by far the best, with the Silvers not far behind. "Taking my Section collectively, I would say the specimens on view were of a high standard and in many instances it made my task somewhat trying." I have no report to hand from Mr. H. Albert, but I understand old birds were a grand lot and in good condition.

The George Cotton Challenge Cup for the best cock bred in current year was awarded to Pen 25, Class 3, Mr. T. Wilkinson's Blue cock, this bird also taking the Association's Silver Medal.

The George Cotton Challenge Cup for the best hen bred in the current year was awarded to Pen 208, Class 20, Mr. W. Proctor Smith's Silver hen, which also took the Association's Silver Medal.

The Hewitt Challenge Cup for the best young White Dragoon bred in the current year was awarded to Pen 243, Class 25, Mr. C. M. Cooper's White cock.

The six N.P.A. Certificates allotted to this section were awarded as follows:—

			Class.	Pen
Blues ...	...	Mr. T. Wilkinson's young cock	... 3	25
Blue Chequers	...	Mr. W. L. Wilkinson's adult cock	... 5	61
Red Chequers...	...	Mr. W. L. Wilkinson's young cock	... 11	126
Grizzles	...	Not awarded.		
Silvers	...	Mr. W. Proctor Smith's young hen	... 20	208
Whites	...	Mr. C. Ives' adult cock	... 23	225

Modenas numbered 467 entries in 40 classes as compared with 480 entries in 43 classes last year. Mr. E. W. Canham judged the Gazzis and Classes 59 to 66, Mr. H. Hoyle the Argents and remaining Schietti Classes.

Mr. E. W. Canham reports that the Blue Gazzis do not seem to have made the progress they should have done during the past year, whilst in the Blacks, Bronze and Tricolour classes were undoubtedly to be found some of the best Gazzis, a very outstanding bird being the young Black Gazzi cock, winner of the Fulton and Dr. C. H. Tattersall's Trophies. Silver Gazzis seem to be holding their own and some very nice typed birds were to be found in the A.O.C. classees. In Classes 59 and 60 it was hard to do justice to some of the colours represented owing to the mixture of different colours in these classes. The Silvers took first place over the Creams, while there were some nice quality Mealys shown. In the A.O.C. Schietti Classes there were some outstanding Magnani. Whites appear to be losing favour again, Sulphurs coming up well with some good quality birds shown.

No report from Mr. H. Hoyle is to hand for the classes he judged.

The Association's Silver Medal for the best young Gazzi bred in the current year was awarded to Pen 327, Class 33,

Messrs. W. S. & R. W. Brocklehurst's young Black cock, winner of both the Fulton Trophy and Dr. C. H. Tattersall's Trophy. The Association's Silver Medal for the best young Schietti bred in the current year was awarded to Pen 712, Class 65, Dr. W. H. Tattersall's Sulphur Cock.

The ten N.P.A. Certificates allotted to this section were awarded as follows:—

GAZZI:—

			Class.	Pen.
Blue	Messrs. W. S. & R. W. Brocklehurst's adult			
	cock	27	263	
Black or Bronze	Messrs. W. S. & R. W. Brocklehurst's adult			
	bronze cock	31	306	
A.O.C.	Mr. N. Sharp's adult silver hen	36	354	
Argents	Mr. A. C. Tattersall's adult cock	39	385	

SCHIETTI:—

Blues	Mr. W. F. Holmes' young cock	45	470	
Blacks	Mr. A. C. Tattersall's adult hen	48	513	
Red and Yellow	Mr. H. R. Neal's young hen	54	581	
Bronze and Tie	Mr. J. L. Sears' young hen	58	639	
A.O.C.	Dr. W. H. Tattersall's young cock	59	649	
A.O.C., except Barred	Dr. W. H. Tattersall's young cock	65	712	

Archangels numbered 49 in the usual 4 classes as compared with 51 entries last year. Mr. H. W. Williams judged this section and reported that the breed was well represented, quality very good and competition amongst the breeders very keen, especially in both young bird classes. A new comer to the breed captured the N.P.A. Certificate. The characteristic features of this variety are being carefully preserved. The Bronze Medal of the Association for the best bird bred in the current year was awarded to Pen 769, Class 70, Mr. J. R. Dovener's grand young hen, which was also the winner of the N.P.A. Certificate.

Oriental Frills numbered 175 entries in 18 classes, 1 class having been cancelled, as compared with 173 entries in 16 classes last year. Mr. H. Wheatley judged Classes 71 to 78 and 88 and 89. Mr. A. Sears judged the remaining Classes 79 to 87.

Mr. H. Wheatley reports that the Blondinettes and A.O.V. of Oriental Frills in his section were all in wonderful condition and the quality of the birds good, some really wonderful headed birds being shown; the young birds were well up to standard.

Mr. A. Sears reports that he considers that the birds he had to judge were the best he had seen for many years as regards quality and type, and many good table birds had to go cardless. The Oriental Frill fancy is looking up and many new names are to be seen in the catalogue and amongst the list of prize winners.

The Oriental Frill Challenge Trophy for best bird was awarded to Mr. H. N. Helliwell's Pen 804, Class 73, the same bird winning the Association's Silver Medal for the best bird bred in the current year.

The six N.P.A. Certificates in this section were awarded as follows:—

					Class.	Pen.
Blondinette, Black or						
Dun Laced	...	Mrs. M. M. Prince Smith	...	...	71	777
A.O.C., Laced	...	Mr. J. L. Sears	...	...	75	814
Satinette, Black or Dun						
Laced	...	Mr. H. N. Helliwell	...	...	79	845
A.O.C.	...	Mrs. M. M. Prince Smith	...	...	82	881
Bluette or Silverette	...	Mr. R. Miller	...	...	85	915
A.O.V. or Barred Blondinette.	Not awarded.					

Turbits numbered 20 entries in 2 classes as compared with 27 entries in 4 classes last year. Mr. S. Maltby judged this section and reports that quality was good throughout. The young birds were a better lot than the adults taking them all through. The new Goatcliff Memorial Cup was offered for the first time and was awarded to Mr. W. R. Lobb's Young cock, Pen 967, Class 91.

Nuns numbered 56 entries in 6 classes, 1 class cancelled, as compared with 72 entries in 7 classes last year. Mr. J. Alan Walker, the judge of this section, reports that the standard of the exhibits individually was a very high one. Whilst the Blacks and Duns still reign supreme there has been a decided advance made in all the other colours, particularly so in the case of the Blues. Condition of all the birds was excellent and made judging a pleasure. The Association's Bronze Medal for the best bird bred in the current year was awarded to Pen 982, Class 93, Messrs. M. & W. Allinson's Black cock. The N.P.A. Certificate for the best Black or Dun was awarded to Pen 977, Class 92, Mr. W. J. Smillie's Adult Black, and the N.P.A. Certificate for the best Red, Yellow or Blue not awarded.

Short-Faced Tumblers numbered 45 entries in 4 classes, 1 class cancelled, as compared with 59 entries in 5 classes last year. Mr. S. Maltby judged this section and reports that the exhibits were a good lot and very level, and there was not much choice between the winners in each class.

The Association's Bronze Medal for best bird bred in the current year was awarded to Pen 1065, Class 103, Mr. W. Proctor Smith. No reserve as to whom the N.P.A. Certificate was awarded to in this breed.

Long-Faced Self Tumblers numbered 159 entries in 16 classes, 3 classes cancelled, as compared with 213 entries in 20 classes last year. This section was judged by Mr. G. Lappin and Mr. C. Tanner. Mr. G. Lappin reports that the general quality of the exhibits in his classes was first class and well up to previous Dairy Show standards, the Black Selves being particularly good and showing considerable advance in type and quality. Mr. C. Tanner reports that the Adult Yellows were better in type and feather than the young birds and he is inclined to think the Yellows have gone back a little the last year or two. In the A.O. Colour Bar Classes a big improvement is shown in both colour and type, the young birds being quite a nice level lot on the whole; Grizzles Adults were the best in colour, though lacking the correct formation of skull, but the 1937 birds are certainly showing promise of much improvement in that direction.

The Association's Silver Medal for the best pigeon bred in the current year was awarded to Pen 1102, Class 106, Messrs. Henderson Bros.' Black Self cock, this same exhibit being also winner of the Association's Gold Medal for best young bird in Show.

The five N.P.A. Certificates were awarded as follows:—

				Class.	Pen
Blacks	...	...	Messrs. Henderson Bros.	... 106	1102
Yellow	...	...	Mr. J. Lester	... 110	1142
Blue Bar	...	...	Mr. R. B. Fair	... 115	1173
A.O.C. Bar or Grizzle	...	...	Mr. R. B. Fair	... 118	1201
Red, White or Chequer	...	...	Mr. D. Aitkin	... 122	1229

Balds and Beards, &c., numbered 44 entries in 7 classes, 4 classes cancelled, as compared with 94 entries in 13 classes last year. Mr. W. Pole judged this section and reports that the quality of the exhibits, with the exception of one or two breeds, was far below the average generally seen at the Dairy Show in past years.

The Association's Silver Medal for best Long-Faced Tumbler other than Self bred in 1937, in Classes 123 to 133, was awarded to Pen 1267, Class 133, Mr. C. Arnold. The two N.P.A. Certificates were awarded as follows:—

				Class.	Pen.
Baldheads, Black	...	...	Mr. F. T. Goad	... 126	1245
„ A.O.C.	...	...	Mr. W. R. Blenkinsop	... 129	1255

Muffed Tumblers numbered 22 entries in 2 classes as compared with 33 entries in 4 classes last year. This section was judged by Mr. W. Pole, who reports that the exhibits were up

to the average of past years, the Blacks still being the best pigeons.

Magpies numbered 92 entries in 7 classes as compared with 60 entries in 7 classes last year. Mr. W. Bracey judged this section and reports that the quality was good and type much improved and birds shown in much better condition than usual for this early date of the year. The Association's Bronze Medal for best bird bred in the current year was awarded to Pen 1338, Class 138, Mr. H. Clemmit's Yellow cock.

The two N.P.A. Certificates were awarded as follows:—

			Class.	Pen.
Black or A.O.C.	...	Mr. W. H. Howes' black cock	136	1300
Yellow or Red	...	Mr. W. L. MacLaren's yellow hen	139	1345

Variety Pigeons numbered 105 entries in 11 classes, 1 class cancelled, as compared with 65 entries in 6 classes last year. Mr. J. E. Johns judged this section and reports that these classes were about up to the average in quality, and there was no great improvement in any class. *Fairy Swallows* were good with very little to choose between the first three in each class. *Monks* have improved in the last year or two and the winner was an exceptionally good pigeon. *Blazefaces* were about same quality as at the last Dairy Show.

Priests have gone back a bit and are losing footing.

Muffed Ices. A real good class with improvement in colour.

Shields. After the winner, nothing outstanding.

Gimples. One or two outstanding birds and the winner a long way ahead of all the others.

Frill backs have gone back and were nothing like those shown in past years.

Spots. Quite a good lot, the winner quite the best seen for years.

The Association's Bronze Medal for best bird bred in the current year was awarded to Pen 1410, Class 144, Dr. J. S. Peebles' Fairy Swallow.

The N.P.A. Certificate was awarded to Dr. J. S. Peebles' Adult Fairy Swallow, Pen 1397, Class 143.

Racing Pigeons numbered 275 entries in the 10 classes as compared with 251 entries in the same number of classes last year. The two judges were Mr. J. A. Thorburn and Mr. J. S. Hartridge, who very kindly took the place of Mr. E. Crosbie at

very short notice. This section was again well represented with exhibits of a very high standard, correct in shape, balance and feather—every bird being shown in beautiful condition.

The Association's Bronze Medal for best pigeon of opposite sex to the winner of the Osman Cup was awarded to Pen 1608, Class 160, Mr. A. Simmond's grand young hen—flown at least 70 miles during 1937.

The Osman Challenge Cup was awarded to Pen 1504, Class 155, Mr. C. R. Simon's adult cock. Flown at least 200 miles.

Flying Tipplers numbered 42 entries in 2 classes as compared with 30 entries in 2 classes last year. This section was judged by Mr. R. F. Hirst. The exhibits were well shown and in good condition.

Flying Tumblers numbered 11 entries in the 1 class, slightly better than last year's entry of only 8 entries in the 1 class. Mr. R. F. Hirst also judged this section and reports that they were a grand lot to handle. "The condition of some of the birds that came before me force me to the conclusion that many fanciers forget that on the Show bench the same rules as for flying apply."

Antwerp Smerles numbered 61 entries in 4 classes as compared with 53 entries in 4 classes last year. Mr. M. Gunnill judged this section and reports that the Blacks showed the most improvement; birds were well shown and in good condition throughout. The Association's Bronze Medal was awarded to Pen 1851, Class 170, Mr. W. J. Rayner's Red cock, the N.P.A. Certificate going to the same exhibit.

Jacobins numbered 17 entries in the 2 classes as compared with 34 entries in 4 classes last year. Mr. H. W. Webb judged this section and reports that the quality was good, entries short through Show being too early for birds to get through the moult and be fit for the Show form.

English Owls. This section was a failure. Never a very strong section at any time, but owing to the new rule that classes which do not contain entries from at least three separate exhibitors will be cancelled resulted in only 1 class of 5 entries standing; 3 classes were cancelled. There were 32 entries in 5 classes last year.

The Gatty Challenge Cup, the Association's Silver Medal and the N.P.A. Certificate could not be awarded, but the winner of the Jones Trophy for best Adult bird in Show was found in Pen 1899, Class 174, Mr. W. Prince Smith's adult cock. Mr. H. Waller was the judge.

African Owls numbered 88 entries in 9 classes as compared with 62 entries in 7 classes last year. Mr. W. A. Sherrett judged this section and reports that quality was slightly down on previous years, no doubt owing to birds not having moulted as early as usual. The Black and Dun were the best classes. Pies fair.

The Gatty Challenge Cup for the best bird bred in the current year was awarded to Pen 1986, Class 186, Dr. J. S. Peebles. The two N.P.A. Certificate winners, one for best Black or Dun was awarded to Pen 1909, Class 178, Mr. M. C. J. Sparrow, and the A.O. Colour was awarded to Pen 1943, Class 181, Messrs. J. E. & W. Watmough.

Antwerps numbered 16 entries in 3 classes, 1 class cancelled, as compared with 22 entries in the 4 classes last year. Mr. A. J. Parker judged this section. The Association's Bronze Medal was awarded to Pen 2007, Class 189, Mr. H. Driver's young cock. The N.P.A. Certificate was not awarded.

Show Homers numbered 93 entries in 8 classes as compared with 101 entries in 8 classes last year. Mr. W. V. Thomson judged this section and reports that the entry was very good considering the bad season Show Homer breeders have experienced, and there were a grand lot of birds staged, of good type and condition throughout. The winner of the Lovell Trophy was Pen 2008, Class 191, Mr. M. Dearnley. The Association's Silver Medal was awarded to Pen 2093, Class 197, Mr. R. Cocker's young cock. The N.P.A. Certificate for best Chequer was awarded to Pen 2040, Class 193, Mr. W. V. Hillard, and Certificate for A.O. Colour went to Pen 2093, Class 197, Mr. R. Cocker's young cock.

Exhibition Homers numbered 76 entries in 6 classes as compared with 85 entries in same number of classes last year. Mr. Percy Taylor judged this section and reports that judging was made more difficult as several exhibits were not quite through the moult, quality and type being good. The Association's Bronze Medal for best bird bred in current year was awarded to Pen 2167, Class 204, Mr. W. H. York's young hen.

Holle Croppers numbered 18 entries in 2 classes as compared with 31 entries in 4 classes last year. Mr. A. J. Parker judged this section.

Polish Lynx numbered 23 entries in 2 classes as compared with 14 entries in same number of classes last year. Mr. A. J. Parker judged this section. The N.P.A. Certificate was awarded to Pen 2195, Class 207, Mr. G. A. Drake's adult cock.

Runts numbered 10 entries in 2 classes as compared with 16 entries in 4 classes last year. Mr. A. J. Parker also judged this section and the N.P.A. Certificate was awarded to Mr. J. L. Sears' young cock, Pen 2225, Class 210.

Carriers numbered 27 entries in 3 classes as compared with 22 entries in 4 classes last year. Mr. H. W. Webb judged this section and reports that the exhibits were up to standard, type and condition were good, but he found it hard to judge; mixed classes being very unfair on the hens. The Association's Bronze Medal for best young Carrier was awarded to Pen 2254, Class 213, Messrs. G. & J. Smith. The N.P.A. Certificate was awarded to Pen 2234, Class 211, Mr. G. Wilson.

Pouters numbered 17 entries in 1 class as compared with 14 entries in 2 classes last year—a good class; the birds were shown in good condition and well up to standard. Mr. G. H. Lock judged this class.

Pigmy Pouters numbered 121 entries in 11 classes as compared with 96 entries in the same number of classes last year. Mr. G. H. Lock and Mr. J. L. M. Cutts judged this section. Mr. J. L. M. Cutts reports that he found the quality in the Blues and Silvers on the up grade since last time he judged these colours; several good Silver hens were shown, this colour having been very badly neglected during recent years. Whites are still the outstanding specimens. He found very few good specimens in Reds, Yellows and Blacks, but the latter has gone downhill a lot. Mr. G. H. Lock reports that he found quality well maintained and size improved; breeders seem to be working on sound principles. The Captain St. John Hornby Cup for best Adult Pigmy Pouter was awarded to Pen 2288, Class 217, Mr. H. N. Leighton's adult White. The Association's Silver Medal for best bird bred in the current year was awarded to Pen 2326, Class 220, Mr. H. N. Leighton's White cock. I have no records of the three N.P.A. Certificates awards in this section.

Norwich Croppers numbered 46 entries in 4 classes as compared with 35 entries in 5 classes last year. Mr. A. J. Parker judged this section and I have no report to hand. The Association's Bronze Medal for the best bird bred in the current year was awarded to Pen 2428, Class 228, Mr. E. Forster's young cock. The N.P.A. Certificate awarded to Pen 2397, Class 226, Mr. E. Forster's adult cock.

Fantails numbered 77 entries in 5 classes as compared with 89 entries in 10 classes last year. Mr. H. S. C. Dean judged this section and reports that the Fantails at the Dairy Show this

year were of a very high quality, and considering the early date of the Show, the entry was a good one, some very good birds being on view and shown in wonderful condition. The Bates Cup was awarded to Pen 2505, Class 237, Mr. D. Blackadder's young Black hen; the same exhibit was also awarded the Association's Silver Medal. The Esquilant Trophy and the N.P.A. Certificate for best A.O. Colour Fantail, the N.P.A. Certificate for best White was awarded to Pen 2473, Class 233, Mr. Hugh Gordon's young White hen.

Selling Classes. Price not to exceed £2 numbered 23 entries in the 2 classes as compared with 39 entries in 4 classes. Mr. A. J. Parker judged these classes.

In concluding this report of the Pigeon Section of the 1937 Dairy Show, I wish to again add my sincere thanks to all the members of my Committee and to the Stewards for their loyal support and hard work throughout the Show, and in particular I wish to thank Mr. F. J. Bull and his most willing and able staff for their help during the Show, to Mr. A. Wallis in the Pigeon Office and Mr. E. O'Dell, for their valuable help as my assistants.

AWARD OF PRIZES, DAIRY SHOW, 1937

TROPHIES AND SPECIAL PRIZES FOR DAIRY COWS AND HEIFERS IN MILK.

Open to all Breeds.

THE BRITISH DAIRY FARMERS' ASSOCIATION'S SUPREME INDIVIDUAL CHAMPIONSHIP CHALLENGE TROPHY, for the Cow gaining the greatest number of points on Inspection, in the Milking Trials (provided the quality of the milk analysed during the test does not fall below 3 per cent. fat, nor below 8.5 per cent. of non-fatty solids at any Milking), and in the Butter Test. Awarded to A. Watson, for Ayrshire Cow "Barboigh Liliass 28th."

THE "BLEDISLOE" CHALLENGE TROPHY (presented by VISCOUNT BLEDISLOE, P.C., G.C.M.G., K.B.E.), for the best exhibit of good all-round Dairy Cows. Awarded to British Friesians.

THE "MORRISON" CHALLENGE TROPHY (presented by the late MAJOR J. A. MORRISON, D.S.O.), for the Cow exhibited at three consecutive London Dairy Shows at which cattle was exhibited, gaining the greatest total number of points (at the three Shows) on Inspection, in the Milking Trials and Butter Tests. Awarded to Stuart Paul for Red Poll Cow "Kirtion Sundial."

THE "BARHAM" CHALLENGE CUP (presented by the late MR. G. TITUS BARHAM), for the Cow gaining the greatest number of points in the Milking Trials. Awarded to Strutt & Parker (Farms), Ltd., for British Friesian Cow "Lavenham Unique 8th."

THE "SPENCER" CHALLENGE CUP (presented by the late MR. J. F. SPENCER, Coronation Year, 1902), for the Cow gaining the greatest number of points on inspection, in Milking Trials and Butter Tests. Awarded to Cecil Ball, for British Friesian Cow "Oakham Dainty Gem."

THE "SHIRLEY" CHALLENGE CUP (presented by the late MR. J. L. SHIRLEY), for the Cow giving the greatest average daily weight of milk in the Milking Trials, such milk to contain not less than 3 per cent. fat and 8.5 per cent. of non-fatty solids. Awarded to Strutt & Parker (Farms), Ltd., for British Friesian Cow "Lavenham Unique 8th."

THE "BREEDERS" MILK CHALLENGE TROPHY (presented by MRS. R. M. FOOT) for the Cow or Heifer, entered in or eligible for the Herd Book of its Breed, obtaining in the Milking Trials the greatest number of points per 1,000 lbs. live weight for milk with lactation points added. Animals eligible to compete for this Trophy must have been bred by the owner, and must be stalled in the section for licensed cattle or have passed the tuberculin test on or after 1st August, 1937. Awarded to David Smith, for Ayrshire Cow "Kilmaurs Mains Mermaid."

THE NATIONAL MILK CHALLENGE CUP, for the Cow or Heifer, entered in or eligible for the Herd Book of its breed, obtaining in the Milking Trials the greatest number of points per 1,000 lbs. live weight for milk with lactation points added. Awarded to Mrs. H. I. Pitman, for Jersey Cow "Scarletts Aquamarine."

THE NATIONAL BUTTER CHALLENGE CUP, for the Cow or Heifer, entered in or eligible for the Herd Book of its breed, obtaining in the Butter Tests the greatest number of points per 1,000 lbs. live weight for Butter with lactation points added. Awarded to W. E. Press, for Jersey Cow "Wolvers Jenny."

SPECIAL PRIZE OF £10 (offered by SIR ROBERT L. MOND, J.P.), for two animals, the Progeny of any particular Bull, gaining in the Milking Trials highest points above the Class Standard, awarded to Strutt & Parker (Farms), Ltd., for "Lavenham Trifolium 6th" and "Lavenham Unique 8th" (British Friesians), progeny of "Lavenham Laddie."

Open only to Shorthorns.

THE "DESBOROUGH" CUP (presented by LORD DESBOROUGH, K.C., G.C.V.O.), for the Cow, exhibited in Classes 1 and 2, gaining the highest points in the Milking Trials. Awarded to Capt. A. S Wills, for "Thornby Barrington Duchess 9th."

THE "CALVERT" CHALLENGE CUP (presented by the late Mr. HORATIO CALVERT), for the best Pedigree Dairy Shorthorn Cow or Heifer upon Inspection only. Awarded to C. J. Allday, for "Fothering Foggathorpe 2nd."

THE "MELVIN" PERPETUAL CHALLENGE CUP (presented by SIR MARTIN MELVIN, BART.) for the Dairy Shorthorn Cow or Heifer entered in Coates' Herd Book or in the Grading Register, gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests. Animals eligible to compete for this Cup must have been bred by the Owner. Awarded to C. J. Allday, for "Fothering Foggathorpe 2nd."

THE "SHORTHORN" BUTTER CHALLENGE CUP (presented by MAJOR S. P. YATES), for the Shorthorn Cow or Heifer entered in Classes 1 to 5 complying with all the conditions of the Butter Tests. Awarded to C. J. Allday, for "Fothering Foggathorpe 2nd."

THE "THORNTON" CHALLENGE CUP (presented by MESSRS. JOHN THORNTON & CO.), for the best Group of three Pedigree Dairy Shorthorn Cows and/or Heifers upon Inspection only. Awarded to W. H. Vigus, for "Revels Maggie's Mabel," "Revels Tulip 2nd" and "Revels Princess Pearl."

THE CORONATION NON-PEDIGREE DAIRY SHORTHORN CHALLENGE CUP (presented by FRIENDS OF THE NON-PEDIGREE DAIRY SHORTHORNS), for the best Non-Pedigree Dairy Shorthorn Cow or Heifer on Inspection. Awarded to Harry Brazier, for "Milkmaid."

EXTRA PRIZE OF £25 (offered by the Shorthorn Society of the United Kingdom of Great Britain and Ireland), for the Dairy Shorthorn Cow or Heifer, pedigree or entered in the Shorthorn Society's Grading Register, gaining most points on Inspection, in the Milking Trials and Butter Tests. Awarded to C. J. Allday, for "Fothering Foggathorpe 2nd."

EXTRA PRIZE of £10 (offered by the Shorthorn Society of the United Kingdom of Great Britain and Ireland), for the Cow exhibited in Class 4 and entered, or accepted for entry, in the Grading Registers of the Shorthorn Society gaining most points on Inspection and in the Milking Trials. Awarded to King's College Farms, for "Mary."

Open only to British Friesians.

THE "THORNTON" CHALLENGE CUP (presented by MESSRS JOHN THORNTON & CO.), for the best group of three Pedigree British Friesian Cows and/or Heifers upon Inspection only. Awarded to W. Twentyman, for "Winchester Stella," "Winchester Beatrice" and "Winchester Medea."

Open only to South Devons.

A SILVER CHALLENGE CUP (presented by the SOUTH DEVON HERD BOOK SOCIETY), for the Pedigree South Devon Cow gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests. Awarded to W. Hunt, for "Diptford Downs Milkmaid 13th."

Open only to Devons.

THE "BUSK" PERPETUAL CHALLENGE CUP (presented by Friends of the late WILLIAM GOULD BUSK of Wraxhall, Dorset), for the Devon Cow or Heifer gaining the greatest number of points on Inspection, in the Milking Trials, Butter Tests, and for the Milk Record for the 12 months ended 1st October, 1937. Not awarded.

Open only to Red Polls.

THE "THORNTON" PERPETUAL CHALLENGE CUP (presented by Messrs. JOHN THORNTON & CO.), for the Red Poll Cow or Heifer gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests. Awarded to Stuart Paul, for "Kirton Sundial."

EXTRA PRIZES, as dual-purpose bonuses (offered by the Red Poll Cattle Society), for Red Polls gaining prizes on Inspection and in the Milking Trials. £4 for each animal, to Col. H. E. Hambro, for "Morston Girl 14th" and "Coldham Nelly"; Stuart Paul, for "Kirton Sundial," "Kirton Duplex," "Meddler Sparkle," "Kirton Fantasy," "Kirton Lilyrose" and "Kirton Faithless"; Mrs. H. D. Lewis, for "Latimer Primrose 3rd"; Brooks (Mistley), Ltd., for "Mistley Peaceful."

Open only to Ayrshires.

THE "ROWALLAN" CHALLENGE CUP (presented by LORD ROWALLAN), for the Ayrshire Cow or Heifer registered or eligible for registration with a number in the Ayrshire Cattle Herd Book, gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests. Awarded to A. Watson, for "Barboigh Lilius 28th."

EXTRA PRIZES (offered by the English Committee of the Ayrshire Cattle Herd Book Society), for animals bred in England and Wales gaining the greatest number of points under the conditions of the "Rowallan" Cup. £10 to Hugh Wyllie, for "Bruehag Princess"; £5 to D. Mackay, for "Garston Orange Blossom."

Open only to Guernseys.

THE "STAGENHOE" CHALLENGE CUP (presented by MRS. W. BAILEY-HAWKINS), for the Guernsey Cow or Heifer gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests. Awarded to S. R. Hicks, for "Broad Oak Madge."

EXTRA PRIZES (offered by the English Guernsey Cattle Society):—£10 for the best Guernsey Cow or Heifer on Inspection, awarded to A. T. Loyd, for "Lockinge Lady Belle 6th"; £10 for the Guernsey Cow or Heifer gaining the highest points in the Milking Trials and Butter Test, awarded to S. R. Hicks, for "Broad Oak Madge."

Open only to Jerseys.

THE "BLYTHWOOD" PERPETUAL CHALLENGE BOWL (presented by THE RT. HON. LORD BLYTH OF BLYTHWOOD), for the best Jersey Cow or Heifer bred in Great Britain or Ireland and entered or eligible for entry in the English Jersey Herd Book, on Inspection. Awarded to M. F. North, for "Wotton Bella Donna."

THE "BLYTHWOOD" PRODUCTION CHALLENGE BOWL (presented by the HEIRS OF THE LATE MR. J. H. SMITH-BARRY) for the Jersey Cow or Heifer gaining the greatest number of points in the Milking Trials and in the Butter Tests, provided that the animal has been bred in Great Britain or Ireland. Awarded to J. W. McCallum, for "Pearcelands Eileen 10th."

THE "JERSEY" PERPETUAL PRODUCTION TROPHY (presented by DR. H. and Miss CORNER), for the Jersey Cow or Heifer gaining the greatest number of points in the Milking Trials and Butter Tests. Any animal whose milk contains less than 4 per cent. of butter-fat on the day's yield will be disqualified. Awarded to J. W. McCallum, for "Pearcelands Eileen 10th."

THE "LOXWOOD" JUBILEE CHALLENGE CUP (presented by MR. M. F. NORTH) will be awarded to the Owner of the Jersey Cow or Heifer obtaining the highest number of points for Milk, Butter, Lactation, and Inspection. The average butter-fat to be not less than 4.5. Awarded to J. W. McCallum, for "Pearcelands Eileen 10th."

GOLD, SILVER AND BRONZE MEDALS (presented by the ENGLISH JERSEY CATTLE SOCIETY), for the first three animals in the Butter Test, obtaining not less than 42 points. Awarded to W. E. Press, for "Wolvers Jenny"; The Ladies C. Ryder and A. Anson, for "Mermaid 2nd" and J. W. McCallum, for "Pearcelands Eileen 10th" respectively.

Open only to Keries.

A SILVER CHALLENGE CUP (presented by the BRITISH KERRY CATTLE SOCIETY), for the Kerry Cow gaining the greatest number of points in the Milking Trials. Not awarded.

Open only to Dexters.

THE "LODER" PERPETUAL CHALLENGE CUP (presented by LADY LODER), for the Dexter Cow or Heifer gaining the most points on Inspection, in the Milking Trials and Butter Tests. Not awarded.

Inspection and Milking Trials Prizes.

CLASS 1.—DAIRY SHORTHORN COW.—Entered in or accepted for Coates' Herd Book. Born on or previous to 1st August, 1932. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old during a lactation period of 45 weeks, recorded by a recognised Milk Recording Society. *First Inspection* (£10), Shorthorn Society's Inspection (£2), *First Milking Trial* (£10) and *Extra Inspection* (£5) to C. J. Allday for "Fothering Foggathorpe 2nd." *Second Inspection* (£6) and Shorthorn Society's Inspection (£1) to F. Chapman for "Sizergh Primrose." *Third Inspection* (£4) and Shorthorn Society's Inspection (£1) and *Second Milking Trial* (£6) to King's College Farms for "Holmescales Furbelow 3rd." *Fourth Inspection* (£2) to P. R. L. Savill for "Countess Clara 3rd." *Fifth Inspection* (£1) and *Sixth Milking Trial* (£1) to Lawrence Hignett for "Cheekendon Waterloo Cran 2nd." *Sixth Inspection* (£1) to F. Chapman for "Chevet Clover." *Third Milking Trial* (£4) to John Crowe for "Oxford Rosette." *Fourth Milking Trial* (£2) to Mark Walker for "Hothersall Dainty Darlington 3rd." *Fifth Milking Trial* (£1) to Sir Martin J. Melvin, Bart., J.P., for "Copsale Wild Eyes 15th."

CLASS 2.—DAIRY SHORTHORN COW.—Entered in or accepted for Coates' Herd Book. Born after 1st August, 1932, and which has produced two or more calves. *First Inspection* (£10), Shorthorn Society's *Inspection* (£2) and *First Milking Trial* (£10) to Capt. A. S. Wills for "Thornby Barrington Duchess 9th." *Second Inspection* (£6), Shorthorn Society's *Inspection* (£1) and *Sixth Milking Trial* (£1) to John Cronk for "Cromarby Brimstage." *Third Inspection* (£4) and Shorthorn Society's *Inspection* (£1) to W. H. Vigus for "Revels Tulip 2nd." *Fourth Inspection* (£2) to A. Thomas Loyd for "Anderson Barrington Princess 5th." *Fifth Inspection* (£1) and *Third Milking Trial* (£4) to P. R. L. Savill for "Greattew Hilda 8th." *Sixth Inspection* (£1) to T. W. M. Perkins for "Holmelacy Ringlet 32nd." *Second Milking Trial* (£6) to Sir Martin J. Melvin, Bart., J.P., for "Copsale Wild Eyes 16th." *Fourth Milking Trial* (£2) to Sir Martin J. Melvin, Bart., J.P., for "Dainty Princess 12th." *Fifth Milking Trial* (£1) to W. H. Vigus for "Revels Princess Pearl."

CLASS 3.—DAIRY SHORTHORN HEIFER.—Entered in or eligible for Coates' Herd Book. Born on or after 1st August, 1934, and having produced only one calf. *First Inspection* (£10), Shorthorn Society's *Inspection* (£2) and *Second Milking Trial* (£6) to John Day for "Huxham Duchess Rose 9th." *Second Inspection* (£6), Shorthorn Society's *Inspection* (£1) and *Fourth Milking Trial* (£2) to King's College Farms for "Pearl's Gift." *Third Inspection* (£4), Shorthorn Society's *Inspection* (£1) and *Sixth Milking Trial* (£1) to H. C. Harris for "Silsoe Matchless Maid." *Fourth Inspection* (£2) and *Third Milking Trial* (£4) to Ralph Tustian for "Greattew Sophie 5th." *Fifth Inspection* (£1) to Chivers & Son, Ltd., for "Histon Royal Duchess 6th." *Sixth Inspection* (£1) and *Fifth Milking Trial* (£1) to J. Pierpont Morgan for "Aldenham Kirklevington 20th." *Seventh Inspection* (£1) and *First Milking Trial* (£10) to Sir Martin J. Melvin, Bart., J.P., for "Copsale Johnby 5th."

CLASS 4.—DAIRY SHORTHORN COW.—Not eligible for Clauses 1 or 2. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old during a lactation period of 45 weeks, recorded by a recognised Milk Recording Society. *First Inspection* (£10), Shorthorn Society's *Inspection* (£2) and *Third Milking Trial* (£4) to W. Clarkson & Sons for "Pretty Lass." *Second Inspection* (£6), Shorthorn Society's *Inspection* (£1), *First Milking Trial* (£10) and *Extra Inspection* (£5) to King's College Farms for "Mary." *Third Inspection* (£4), Shorthorn Society's *Inspection* (£1) and *Second Milking Trial* (£6) to University Farms for "Cantab Flora 6th."

CLASS 5.—DAIRY SHORTHORN HEIFER.—Born on or after 1st August, 1934, and having produced only one calf. Not showing more than four broad teeth or as evidence of age the ear-mark number affixed by the Recording Society under the Ministry of Agriculture's Calf-Marking Scheme will be recognised. Not eligible for Class 3. *First Inspection* (£10), Shorthorn Society's *Inspection* (£2) and *Third Milking Trial* (£4) to Harry Brazier for "Milkmaid." *Second Inspection* (£6), Shorthorn Society's *Inspection* (£1) and *Second Milking Trial* (£6) to W. J. Wheeler for "Mathers Bella 10th." *Third Inspection* (£4), Shorthorn Society's *Inspection* (£1) and *First Milking Trial* (£10) to Harry Brazier for "Duchess." *Fourth Inspection* (£2) and *Fourth Milking Trial* (£2) to King's College Farms for "Ruth."

CLASS 6.—LINCOLNSHIRE RED SHORTHORN COW.—Entered in or accepted for the Herd Book. Cows entered in this Class must have yielded a minimum of 7,000 lbs. at five years old or over, or 5,250 lbs. at under five years old either during a lactation period of 45 weeks or for any one completed year of a recognised Milk Recording Society. *First*

Inspection (£10), Lincolnshire Red Shorthorn Association's Inspection (£6), *Third* Milking Trial (£4), Lincolnshire Red Shorthorn Association's Milking Trial (£1 10s.) and *Extra* Inspection (£5) to John Evens & Son for "Burton Venetia 2nd." *Second* Inspection (£6), Lincolnshire Red Shorthorn Association's Inspection (£4) and *Fourth* Milking Trial (£2) to F. Russell Wood for "Bendish Pansy 29th." *Third* Inspection (£4), Lincolnshire Red Shorthorn Association's Inspection (£1 10s.) and *Fifth* Milking Trial (£1) to John Evens & Son for "Burton Royal Starlight 17th." *Fourth* Inspection (£2), *First* Milking Trial (£10) and Lincolnshire Red Shorthorn Association's Milking Trial (£6) to Chivers & Sons, Ltd., for "Histon Fanny 8th." *Fifth* Inspection (£1), *Second* Milking Trial (£6) and Lincolnshire Red Shorthorn Association's Milking Trial (£4) to King's College Farms for "Saltfleet Evelyn 2nd."

CLASS 7.—LINCOLNSHIRE RED SHORTHORN HEIFER.—Entered in or eligible for the Herd Book. Born on or after 1st August, 1934, and having produced only one calf. *First* Inspection (£10) and *Second* Milking Trial (£6) to John Evens & Son for "Burton Ruby Spot 35th." *Second* Inspection (£6) and *Fourth* Milking Trial (£2) to Chivers & Sons, Ltd., for "Histon Paragon 4th." *Third* Inspection (£4) and *Third* Milking Trial (£4) to F. Russell Wood for "Bendish Charm 24th." *Fourth* Inspection (£2) and *First* Milking Trial (£10) to John Evens & Son for "Burton Venus 17th."

CLASS 8.—BRITISH FRIESIAN COW.—Entered in or accepted for the Herd Book or the Supplementary Register. Born on or previous to 1st August, 1932. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old either during a lactation period of 45 weeks or for any one completed year of a recognised Milk Recording Society. *First* Inspection (£10) to W. Twentymann for "Winchester Beatrice." *Second* Inspection (£6) to Miss S. Whitnall for "Codbury Nain 2nd." *Third* Inspection (£4) and *Sixth* Milking Trial (£1) to Strutt & Parker (Farms), Ltd., for "Lavenham Annie 29th." *Fourth* Inspection (£2) to W. Twentymann for "Winchester Medea." *Fifth* Inspection (£1) and *Fourth* Milking Trial (£2) to W. Twentymann for "Winchester Stella." *Sixth* Inspection (£1), *First* Milking Trial (£10) and British Friesian Cattle Society's Milking Trial (£8) to Strutt & Parker (Farms), Ltd., for "Lavenham Unique 8th." *Seventh* Inspection (£1) and *Fifth* Milking Trial (£1) to J. H. Brown for "Marshgreen Kathleen 2nd." *Second* Milking Trial (£6) and British Friesian Cattle Society's Milking Trial (£5) to Strutt & Parker (Farms), Ltd., for "Lavenham Trifolium 6th." *Third* Milking Trial (£4) and British Friesian Cattle Society's Milking Trial (£2) to T. H. Merrick for "Hurdlesgrove Pel Betty 2nd." *Seventh* Milking Trial (£1) to H. C. Alexander for "Kenton Blossom."

CLASS 9.—BRITISH FRIESIAN COW.—Entered in or accepted for Herd Book or the Supplementary Register. Born after 1st August, 1932, and previous to 1st August, 1934. *First* Inspection (£10) and *Fourth* Milking Trial (£2) to W. Curtis & Son for "Abingworth Ilene." *Second* Inspection (£6), *Third* Milking Trial (£4), British Friesian Cattle Society's Milking Trial (£2) and *Extra* Inspection (£5) to A. Weightman for "Herrington Maureen." *Third* Inspection (£4), *First* Milking Trial (£10) and British Friesian Cattle Society's Milking Trial (£8) to Cecil Ball for "Oakham Dainty Gem." *Fourth* Inspection (£2), *Second* Milking Trial (£6) and British Friesian Cattle Society's Milking Trial (£5) to Thomas Brown for "Middlewich Sylvia." *Fifth* Inspection (£1), *Sixth* Milking Trial (£1) to W. Curtis & Son for "Piddington Alice." *Sixth* Inspection (£1) and *Fifth* Milking Trial (£1) to H. C. Alexander for "Kenton Tigress 2nd."

CLASS 10.—BRITISH FRIESIAN HEIFER.—Entered in or eligible for the Herd Book or the Supplementary Register. Born on or after 1st August, 1934, and having produced only one calf. *First Inspection* (£10) and *Third Milking Trial* (£4) to W. Curtis & Son for "Barwyke Butterfly." *Second Inspection* (£6) and *First Milking Trial* (£10) to Cecil Ball for "Oakham Freda." *Third Inspection* (£4) and *Fourth Milking Trial* (£2) to Hodge Bros. for "Fintloch Janette." *Fourth Inspection* (£2) and *Second Milking Trial* (£6) to Hodge Bros. for "Fintloch Jemima."

CLASS 11.—SOUTH DEVON COW.—Entered in or accepted for the Herd Book. Born on or previous to 1st August, 1932. Cows entered in this Class must have yielded a minimum of 7,500 lbs. at five years old or over, or 5,600 lbs. at under five years old either during a lactation period of 45 weeks, or for any one completed year of a recognised Milk Recording Society. *First Inspection* (£10), *Second Milking Trial* (£6) and *Extra Inspection* (£5) to J. T. Dennis for "Winsor Alma." *Second Inspection* (£6) and *First Milking Trial* (£10) to W. Hunt for "Diptford Downs Milkmaid 13th."

CLASS 12.—SOUTH DEVON COW.—Entered in or accepted for the Herd Book. Born after 1st August, 1932, and previous to 1st August, 1934. *First Inspection* (£10) and *First Milking Trial* (£10) to Victor Bunday for "Westerland Anne." *Second Inspection* (£6) and *Second Milking Trial* (£6) to J. T. Dennis for "Winsor Alma 2nd."

CLASS 13.—SOUTH DEVON HEIFER.—Entered in or eligible for the Herd Book. Born on or after 1st August, 1934, and having produced only one calf. *First Inspection* (£10) and *First Milking Trial* (£10) to W. Hunt for "Diptford Downs Milkmaid 28th." *Second Inspection* (£6) and *Second Milking Trial* (£6) to Miss Jervoise Smith for "Sandwell Cowslip." *Third Inspection* (£4) and *Third Milking Trial* (£4) to George Wills for "Rydon Milkmaid 11th."

CLASS 14.—DEVON COW.—Entered in or accepted for the Herd Book or the Supplementary Register. Cows entered in this Class must have yielded a minimum of 6,500 lbs. at five years old or over, or 4,800 lbs. at under five years old either during a lactation period of 45 weeks, or for any one completed year of a recognised Milk Recording Society. No entry.

CLASS 15.—RED POLL COW.—Entered in or accepted for the Herd Book. Born on or previous to 1st August, 1932. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old either during a lactation period of 45 weeks or for any one completed year of a recognised Milk Recording Society. *First Inspection* (£10), *Second Milking Trial* (£6) and *Extra Inspection* (£5) to Col. H. E. Hambro, C.B.E., for "Morston Girl 14th." *Second Inspection* (£6) and *First Milking Trial* (£10) to Stuart Paul for "Kirtion Sundial." *Third Inspection* (£4) and *Third Milking Trial* (£4) to Stuart Paul for "Kirtion Duplex." *Fourth Inspection* (£2) and *Fifth Milking Trial* (£1) to Stuart Paul for "Meddler Sparkle." *Fifth Inspection* (£1) and *Fourth Milking Trial* (£2) to Mrs. H. D. Lewis for "Latimer Primrose 3rd."

CLASS 16.—RED POLL COW.—Entered in or accepted for the Herd Book. Born after 1st August, 1932, and previous to 1st August, 1934. *First Inspection* (£10) to Stuart Paul for "Kirtion Oaken." *Second Inspection* (£6) to Mrs. M. L. Griffith for "Hallingbury Ruby 3rd." *Third Inspection* (£4) and *First Milking Trial* (£10) to Stuart Paul for "Kirtion Fantasy." *Fourth Inspection* (£2) and *Second Milking Trial* (£6) to Stuart Paul for "Kirtion Lilyrose."

CLASS 17.—RED POLL HEIFER.—Entered in or eligible for the Herd Book. Born on or after 1st August, 1934, and having produced only one calf.

First Inspection (£10) and Second Milking Trial (£6) to Col. H. F. Hambro, C.B.E., for "Coldham Nelly." Second Inspection (£6) and Third Milking Trial (£4) to Stuart Paul for "Kirtton Faithless." Third Inspection (£4) and First Milking Trial (£10) to Brooks (Mistley), Ltd., for "Mistley Peaceful."

CLASS 18.—WELSH BLACK COW.—Entered in or accepted for the Herd Book or Appendices. Cows entered in this Class must have yielded a minimum of 7,000 lbs. at five years old or over, or 5,250 lbs. at under five years old either during a lactation period of 45 weeks, or for any one completed year of a recognised Milk Recording Society. Cancelled.

CLASS 19.—AYRSHIRE COW.—Registered with a number in the Herd Book or Appendices. Born on or previous to 1st August, 1932. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years or over, or 6,000 lbs. at under five years old either during a lactation period of 45 weeks, or for any one completed year of a recognised Milk Recording Society. *First Inspection (£10), Ayrshire Cattle Herd Book Society's Inspection (£2), Fourth Milking Trial (£2), Ayrshire Cattle Herd Book Society's Milking Trial (£2) and Extra Inspection (£5) to D. Mackay for "Garston Orange Blossom." Second Inspection (£6), Ayrshire Cattle Herd Book Society's Inspection (£1) and Sixth Milking Trial (£1) to W. & J. Logan for "South Craig Miss Mabel." Third Inspection (£4) and Ayrshire Cattle Herd Book Society's Inspection (£2) to A. W. Montgomerie for "Lessnessock Lottie 2nd." Fourth Inspection £2, Ayrshire Cattle Herd Book Society's Inspection (£2) and Seventh Milking Trial (£1) to W. L. Ferguson for "Cairnweil Brownie 2nd." Fifth Inspection (£1), Ayrshire Cattle Herd Book Society's Inspection (£1), Fifth Milking Trial (£1) and Ayrshire Cattle Herd Book Society's Milking Trial (£1) to A. Cochrane for "Elmhurst Khiva." Sixth Inspection (£1), Third Milking Trial (£4) and Ayrshire Cattle Herd Book Society's Milking Trial (£2) to L. Langmead for "Compton Rosetta." Seventh Inspection (£1), Second Milking Trial (£6) and Ayrshire Cattle Herd Book Society's Milking Trial (£3) to R. Barbour for "Relief Lady Grace 2nd." First Milking Trial (£10) and Ayrshire Cattle Herd Book Society's Milking Trial (£4) to Graham Bros. for "Barr Milkmaid."*

CLASS 20.—AYRSHIRE COW.—Registered with a number in the Herd Book or Appendices. Born after 1st August, 1932, and previous to 1st August, 1934. *First Inspection (£10) and Fifth Milking Trial (£1) to Hugh Wyllie for "Bruchag Princess." Second Inspection (£6) and Second Milking Trial (£6) to David Smith for "Kilmaurs Mains Mermaid." Third Inspection (£4) and First Milking Trial (£10) to Alex Watson for "Barboigh Lilius 28th." Fourth Inspection (£2) and Sixth Milking Trial (£1) to A. W. Montgomerie for "Drumcork Lizzie 2nd." Fifth Inspection (£1) and Third Milking Trial (£4) to J. A. Rennie for "Kirkton Diana." Sixth Inspection (£1) and Seventh Milking Trial (£1) to John M. Logan for "Meadowbank Betty." Seventh Inspection (£1) to R. Mackay for "Bruchag Ellen." Fourth Milking Trial (£2) to A. Cochrane for "Nether Craig Milk Girl."*

CLASS 21.—AYRSHIRE HEIFER.—Registered with a number in the Herd Book or Appendices. Born on or after 1st August, 1934, and having produced only one calf. *First Inspection (£10) and Seventh Milking Trial (£1) to A. W. Montgomerie for "Lessnessock Rosalind 3rd." Second Inspection (£6) and Sixth Milking Trial (£1) to G. Barbour for "Auchengibbert Fairy Maid." Third Inspection (£4) and Second Milking Trial (£6) to A. Cochrane for "Nether Craig Silk." Fourth Inspection (£2) and Third Milking Trial (£4) to David Clark for "Isles Fiona." Fifth Inspection (£1) to David Clark for "Isles Frisky." Sixth Inspection (£1) to R. Barbour for Auchengibbert Nina 2nd."*

Seventh Inspection (£1) to R. Barbour for "Galley Lane Flo." *First* Milking Trial (£10) to John Bone for "Sheepcotes Relish." *Fourth* Milking Trial (£2) to Alex Watson for "Barboigh Lillias 30th." *Fifth* Milking Trial (£1) to A. W. Montgomerie for "Lessnessock Mysie 4th."

CLASS 22.—GUERNSEY COW.—Entered in the Herd Book. Born on or previous to 1st August, 1932. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old, during a lactation period of 45 weeks or for any one completed year of a recognised Milk Recording Society. *First* Inspection (£10) and *Second* Milking Trial (£6) to A. Thomas Loyd for "Lockinge Lady Belle 6th." *Second* Inspection (£6), *Third* Milking Trial (£4) and *Extra* Inspection (£5) to Capt. H. J. Pilbrow for "Vera's Pride of the Queen's." *Third* Inspection (£4) and *First* Milking Trial (£10) to S. R. Hicks for "Broad Oak Madge."

CLASS 23.—GUERNSEY COW.—Entered in the Herd Book. Born after 1st August, 1932, and which has produced two or more calves. *First* Inspection (£10) and *First* Milking Trial (£10) to Capt. H. J. Pilbrow for "Lassie Darling of Mapleton." *Second* Inspection (£6) to J. Brooke for "Bealings Rose's Dequesa"

CLASS 24.—GUERNSEY HEIFER.—Entered in the Herd Book, and which has produced her first and only calf at or under the age of two years and nine months. *First* Inspection (£10) and *Second* Milking Trial (£6) to J. Brooke for "Bealings Wild Rose 2nd." *Second* Inspection (£6) to Capt. H. J. Pilbrow for "Mapleton Dora 2nd." *Third* Inspection (£4) and *Third* Milking Trial (£4) to H. A. Y. Dyson for "Floss of Payhay." *Fourth* Inspection (£2) and *First* Milking Trial (£10) to S. R. Hicks for "Wendy of Les Blicqs." *Fifth* Inspection (£1) to Capt. H. J. Pilbrow for "Mapleton Bon Espoir Lily."

CLASS 25.—JERSEY COW.—English or Island bred, entered in or accepted for the Herd Book. Born on or previous to 1st August, 1932. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old, either during a lactation period of 45 weeks, or for any one completed year of a recognised Milk Recording Society. *First* Inspection (£10), English Jersey Cattle Society's Inspection (£2) and *Extra* Inspection (£5) to Mrs. A. M. Hall for "Elizabeth's Beauty." *Second* Inspection (£6), English Jersey Cattle Society's Inspection (£1) and *Fourth* Milking Trial (£2) to M. F. North for "Wotton Bella Donna." *Third* Inspection (£4) and English Jersey Cattle Society's Inspection (£1) to Ovaltine Dairy Farm for "Playmate of Oaklands." *Fourth* Inspection (£2) and *First* Milking Trial (£10) to J. W. McCallum for "Pearce-lands Eileen 10th." *Fifth* Inspection (£1) and *Third* Milking Trial (£4) to W. E. Press for "Wolvers Jenny." *Sixth* Inspection (£1) to Ovaltine Dairy Farm for "Eucalia's Jest." *Second* Milking Trial (£6) to Sir J. B. Lloyd for "Foxbury Valentine 2nd." *Fifth* Milking Trial (£1) to Mrs. E. Allfrey for "Elfin." *Sixth* Milking Trial (£1) to Ovaltine Dairy Farm for "Kafovite."

CLASS 26.—JERSEY COW.—English or Island bred, entered in or accepted for the Herd Book. Born after 1st August, 1932, and which has produced two or more calves. *First* Inspection (£10), English Jersey Cattle Society's Inspection (£2) and *Sixth* Milking Trial (£1) to Lady Hervey-Bathurst, O.B.E., for "Beetha's Fern Beauty." *Second* Inspection (£6) and English Jersey Cattle Society's Inspection (£1) to Mrs. A. M. Hall for "Oxford's Mabel's Girl 2nd." *Third* Inspection (£4), English Jersey Cattle Society's Inspection (£1) and *Third* Milking Trial (£4) to Mrs. H. J. Pitman for "Scarletts Aquamarine." *Fourth*

Inspection (£2) and English Jersey Cattle Society's Inspection (10s.) to Mrs. Henry Hawkins for "Pagari's June Girl." *Fifth* Inspection (£1) and *First* Milking Trial (£10) to M. F. North for "Conyboro Premature 6th." *Sixth* Inspection (£1) to Mrs. H. I. Pitman for "Robin's Spotted Daisy." *Seventh* Inspection (£1) and *Fourth* Milking Trial (£2) to Ovaltine Dairy Farm for "Ovaltine Orchis." *Second* Milking Trial (£6) to The Ladies Ryder and Anson for "Mermaid 2nd." *Fifth* Milking Trial (£1) to Mrs. Henry Hawkins for "Everdon Tecla Pearl." *Seventh* Milking Trial (£1) to H. S. Mountain for "Groombridge Jersey Blue Belle."

CLASS 27.—JERSEY HEIFER.—English or Island bred, entered in or eligible for the Herd Book, and which has produced her first and only calf at or under the age of 2½ years. *First* Inspection (£10), English Jersey Cattle Society's Inspection (£2) and *Third* Milking Trial (£4) to Mrs. Henry Hawkins for "Standard's Simple Maid." *Second* Inspection (£6), English Jersey Cattle Society's Inspection (£1) and *Fifth* Milking Trial (£1) to Mrs. A. M. Hall for "Shipton Snowdrop." *Third* Inspection (£4), English Jersey Cattle Society's Inspection (£1) and *Second* Milking Trial (£6) to J. W. McCallum for "Samares Diana's Princess 3rd." *Fourth* Inspection (£2) to Ovaltine Dairy Farm for "Constance's Surprise 6th." *Fifth* Inspection (£1) and *First* Milking Trial (£10) to M. F. North for "Loxwood Estellair." *Fourth* Milking Trial (£2) to W. E. Press for "Wolvers Gay Girl."

CLASS 28.—KERRY COW.—Entered in or accepted for the Herd Book. Cows entered in this Class must have yielded a minimum of 6,500 lbs. at five years old or over, or 4,800 lbs. at under five years old, either during a lactation period of 45 weeks or for any one completed year of a recognised Milk Recording Society. No entry.

CLASS 29.—KERRY HEIFER.—Entered in or eligible for the Herd Book. Born on or after 1st August, 1934, and having produced only one calf. No entry.

CLASS 30.—DEXTER COW.—Entered in or accepted for the Herd Book. Cows entered in this Class must have yielded a minimum of 5,000 lbs. at five years old or over, or 3,750 lbs. at under five years old, either during a lactation period of 45 weeks or for any one completed year of a recognised Milk Recording Society. Cancelled.

CLASS 31.—DEXTER HEIFER.—Entered in or eligible for the Herd Book. Born on or after 1st August, 1934, and having produced only one calf. Cancelled.

BUTTER TESTS.

SHORTHORNS, entered in Classes 1 to 7.—*First* (£8 and Silver Medal) to Chivers & Sons, Ltd., for "Histon Fanny 8th." *Second* (£4 and Bronze Medal) to University Farm for "Cantab Flora 6th." *Third* (£2) to C. J. Allday for "Fothering Foggathorpe 2nd." *Fourth* (£1 10s.) to P. R. L. Savill for "Countess Clara 3rd." *Fifth* (£1) to Sir Martin J. Melvin, Bart., for "Copsale Wild Eyes 16th." *Sixth* (£1) to W. H. Vigus for "Revels Princess Pearl." *Seventh* (£1) to Capt. A. S. Wills for "Thornby Barrington Duchess 9th." *Eighth* (£1) to Sir Martin J. Melvin, Bart., for "Dainty Princess 12th." *Ninth* (£1) to John Evens & Son for "Burton Venetia 2nd."

BRITISH FRIESIANS, entered in Classes 8 to 10.—*First* (£8 and Silver Medal) to T. H. Merrick for "Hurdlesgrove Pel Betty 2nd." *Second* (£4 and Bronze Medal) to T. Brown for "Middlewich Sylvia." *Third* (£2) to Strutt & Parker (Farms), Ltd., for "Lavenham Trifolium 6th." *Fourth* (£1 10s.) to Lord Rayleigh's Farms for "Terling Torch 66th." *Fifth* (£1) to Cecil Ball for "Oakham Dainty Gem." *Sixth* (£1) to

A. Weightman for "Herrington Maureen." *Seventh* (£1) to J. H. Brown for "Marshgreen Kathleen 2nd." *Eighth* (£1) to H. C. Alexander for "Kenton Tigress 2nd." *Ninth* (£1) to W. Curtis & Son for "Abingworth Ilene."

RED POLLS, entered in Classes 15 to 17.—*First* (£8 and Silver Medal) to Stuart Paul for "Kirtou Sundial."

AYRSHIRES, entered in Classes 19 to 21.—*First* (£8 and Silver Medal) and Ayrshire Cattle Herd Book Society's (£1) to J. A. Rennie for "Kirkton Diana." *Second* (£4 and Bronze Medal) to A. Watson for "Barboigh Lilius 28th." *Third* (£2) and Ayrshire Cattle Herd Book Society's (£1) to J. M. Logan for "Beauchamps Aster." *Fourth* (£1 10s.) and Ayrshire Cattle Herd Book Society's (£2) to W. & J. Logan for "South Craig Miss Mabel." *Fifth* (£1) and Ayrshire Cattle Herd Book Society's (£1) to R. Barbour for "Relief Lady Grace 2nd." *Sixth* (£1) to Graham Bros. for "Criffel Cherry 2nd." *Seventh* (£1) to D. Mackay for "Garston Orange Blossom." *Eighth* (£1) to H. Wyllie for "Bruchag Princess." *Ninth* (£1) to Graham Bros. for "Barr Milkmaid." *Tenth* (£1) to A. W. Montgomerie for "Drumcork Lizzie 2nd."

GUERNSEYS, entered in Classes 22 to 24.—*First* (£8 and Silver Medal) to J. Brook for "Bealings Wild Rose 2nd." *Second* (£4 and Bronze Medal) to A. Thomas Loyd for "Lockinge Lady Belle 6th." *Third* (£2) to S. R. Hicks for "Broad Oak Madge." *Fourth* (£1 10s.) to Capt. H. J. Pilbrow for "Vera's Pride of the Queen's." *Fifth* (£1) to H. A. Y. Dyson for "Floss of Payhay." *Sixth* (£1) to Hon. A. E. Guinness for "Serena of Myrtle Place."

JERSEYS, entered in Classes 25 to 27.—*First* (£8 and Silver Medal) to W. E. Press for "Wolvers Jenny." *Second* (£4 and Bronze Medal) to The Ladies Ryder and Anson for "Mermaid 2nd." *Third* (£2) to J. W. McCallum for "Pearcelands Eileen 10th." *Fourth* (£1 10s.) to Sir J. B. Lloyd for "Foxbury Valentine 2nd." *Fifth* (£1) to Mrs. H. I. Pitman for "Scarletts Aquamarine." *Sixth* (£1) to M. F. North for "Conyboro Premature 6th." *Seventh* (£1) to Miss G. M. Yule for "April Vinnie." *Eighth* (£1) to Mrs. E. Allfrey for "Elfin." *Ninth* (£1) to Miss G. M. Yule for "The Poplar's Pride Girl."

OTHER BREEDS, entered in Classes 11 to 13.—Prize of £3 to W. Hunt for "Diptford Downs Milkmaid 13th" (South Devon). Prize of £2 to V. Bunday for "Westerland Annie" (South Devon).

BULLS (Progeny of).

CLASS 32.—DAIRY SHORTHORN BULL (Progeny of).—Entered in or eligible for Coates' Herd Book. *First* (£5) to Capt. A. S. Wills for "Thornby Darling Duchess 7th" and "Thornby Darling Duchess 9th" progeny of "Thornby Prettyman 2nd."

CLASS 33.—LINCOLNSHIRE RED SHORTHORN BULL (Progeny of).—Entered in or eligible for the Herd Book. *First* (£5) to Chivers & Sons, Ltd., for "Histon Fanny 8th" and "Histon Paragon 4th" progeny of "Bendish Dairy King." *Second* (£3) to F. Russell Wood for "Bendish Pansy 29th" and "Bendish Charm 24th" progeny of "Bargate Luck."

CLASS 34.—BRITISH FRIESIAN BULL (Progeny of).—Entered in or eligible for the Herd Book or Supplementary Register. *First* (£5) to Strutt & Parker (Farms), Ltd., for "Lavenham Trifolium 6th" and "Lavenham Unique 8th" progeny of "Lavenham Laddie." *Second* (£3) to W. Twentyman for "Winchester Stella" and "Winchester Medea" progeny of "Hamels Janson." *Third* (£2) to T. H. Merrick for "Hurdlesgrove Pel Julia" and "Hurdlesgrove Pel Betty 2nd" progeny of "Creskeld Pel Knol."

CLASS 35.—RED POLL BULL (Progeny of).—Entered in or eligible for the Herd Book. *First* (£5) to Stuart Paul for "Kirtion Sundial" and "Kirtion Lilyrose" progeny of "Leylands Daffodil Pear."

CLASS 36.—AYRSHIRE BULL (Progeny of).—Entered in or eligible for the Herd Book or Appendices. No award.

CLASS 37.—GUERNSEY BULL (Progeny of).—Entered in or eligible for the Herd Book. No award.

CLASS 38.—JERSEY BULL (Progeny of).—Entered in or eligible for the Herd Book. No entry.

CLASS 39.—BULL OF ANY OTHER DAIRY BREED (Progeny of).—Entered in or eligible for the Herd Book. No entry.

SHE GOATS AND GOATLINGS.

TROPHIES AND CUPS.

Open to all Breeds.

THE "HOLMES PEGLER JUBILEE" PERPETUAL CHALLENGE TROPHY for the Goat gaining the highest number of points in the Milking Competition and by Inspection. Awarded to Miss M. W. Harrison for "Hartye of Weald" (British Saanen).

THE BRITISH GOAT SOCIETY'S TEN-GUINEA PERPETUAL CHALLENGE CUP for the best Goat over two years that has borne a kid. Awarded to Miss M. G. M. Madoc for "Malverley Marguerite" (British Alpine).

THE "BARONESS BURDETT-COUTTS" PERPETUAL CHALLENGE CUP for the Goat gaining the highest number of points in the Milking Competition and by Inspection. Awarded to Miss M. W. Harrison for "Hartye of Weald" (British Saanen).

THE "TREMEDDA SELENE" PERPETUAL CHALLENGE CUP for the Goat gaining highest points in the Milking Competition. Awarded to Mrs. R. K. Morcom for "Cornish Praline" (British Toggenburg).

THE "DEWAR" PERPETUAL CHALLENGE CUP for a Female Goat in Milk, and Goatling. Awarded to Miss M. W. Harrison for "Hartye of Weald" (British Saanen) and "Secca of Weald" (Toggenburg).

THE "RIDING" CHALLENGE CUP, offered by the BRITISH GOAT SOCIETY for the best group of three Goats exhibited by the same owner. Awarded to J. R. Egerton for "Didgemere Darkalette" (British Alpine), "Malpas Mariella" (British Alpine) and "Malpas Meda" (British).

THE "DEWAR" PERPETUAL CHALLENGE TROPHY for the Goat over two years old, other than an Anglo-Nubian, entered in the British Goat Society's Herd Book, gaining the highest number of points in the Milking Competition. Awarded to Mrs. R. K. Morecom for "Cornish Praline" (British Toggenburg).

Open only to Toggenburgs.

THE "TOGGENBURG" PERPETUAL CHALLENGE CUP for the Pure Toggenburg Goat or Goatling entered in the Toggenburg Section of the British Goat Society's Herd Book, gaining the highest number of points on Inspection. Awarded to Miss E. M. Sheppard for "Widdington Wintersweet."

THE "STRAKER" CHALLENGE CUP for the Toggenburg Goat over two years old, gaining the highest number of points in either of the Milking Competitions. Awarded to Miss E. M. Sheppard for "Widdington Willenda."

Open only to British Alpines.

THE "ABBEY" PERPETUAL CHALLENGE CUP for the British Alpine Goat gaining the highest number of points on Inspection and Milking. A goat to compete must be bred by the Exhibitor, entered in the British Alpine Section or Register of the British Goat Society's Herd Book, and obtain an award in its Inspection Class. Awarded to Mrs. R. K. Morcom for "Cornish Pitch."

Open only to Saanens.

THE "SAANEN" CHALLENGE CUP for the Saanen Goat bred by the exhibitor and entered in the Saanen Section of the Herd Book, gaining the highest number of points on Inspection and in Milking. Awarded to G. E. Walsh for "Ripton Sybil."

THE "DELAMERE" PERPETUAL CHALLENGE TROPHY for the best Saanen Goat or Goatling on Inspection. Such animal to be entered in the Saanen section of the Herd Book and bred by the Exhibitor. Awarded to G. E. Walsh for "Ripton Sybil."

Open only to British Saanens.

THE "CHAMBERLAIN" PERPETUAL CHALLENGE TROPHY for the British Saanen Goat gaining the highest number of points on Inspection and Milking. A goat to compete must be bred by the exhibitor, entered in the British Saanen Section or Register of the Herd Book, and obtain an award in its Inspection Class. Awarded to Miss M. W. Harrison for "Hartye of Weald."

Open only to Anglo-Nubians.

THE "POMEROY" PERPETUAL CHALLENGE CUP for the Anglo-Nubian Goat, entered in the Anglo-Nubian Section of the British Goat Society's Herd Book, gaining the highest number of points in the Milking Competition. Not awarded.

Open only to Goatlings.

A BRONZE MEDAL offered by the British Goat Society for the best Goatling in Classes 49 to 53. Awarded to J. R. Egerton for "Malpas Mariella" (British Alpine).

MILKING TRIAL PRIZES.

CLASS 40.—SHE-GOATS, FIRST KIDDERS.—*First* (£6 and Silver Medal) to Mrs. R. St. V. Bagnall for "Didgemere Dingalee" (British Alpine). *Second* (£3) to Mrs. R. K. Morcom for "Cornish Frisky" (British Toggenburg). *Third* (£2) to Miss E. Pope for "Heddon Silver" (British Saanen). *Fourth* (£1) to Miss H. R. Barnaby for "Bitterne Favourite" (British). *Fifth* (10s.) to E. Alexander for "Stockwell Tzigane" (British Alpine).

CLASS 41.—SHE-GOATS.—Not eligible for Class 40.—*First* (£6 and Silver Medal) to Mrs. R. K. Morcom for "Cornish Praline" (British Toggenburg). *Second* (£3) to Miss M. Window Harrison for "Hartye of Weald" (British Saanen). *Third* (£2) to Miss M. Window Harrison for "Hindrance of Weald" (British Saanen). *Fourth* (£1) to Miss M. Window Harrison for "Humble of Weald" (British Saanen). *Fifth* (10s.) to Mrs. R. K. Morcom for "Cornish Wibleyweb" (British).

INSPECTION PRIZES.

- CLASS 42.—TOGGENBURG SHE-GOATS, entered or eligible for entry in the Toggenburg Section of the Herd Book. *First* (£2 10s.) to Miss E. M. Sheppard for "Widdington Wintersweet." *Second* (£1 10s.) to Miss M. Window Harrison for "Odina of Weald." *Third* (£1) to Miss E. M. Sheppard for "Widdington Willenda." *Fourth* (10s.) to Miss E. Alexander for "Stockwell Calloo."
- CLASS 43.—BRITISH ALPINE SHE-GOATS, entered in or eligible for entry in the British Alpine Section of the Herd Book. *First* (£2 10s.) to Miss M. G. M. Madoc for "Melverley Marguerite." *Second* (£1 10s.) to J. R. Egerton for "Didgemere Darkalette." *Third* (£1) to Miss E. Pope for "Highland Mauvette." *Fourth* (10s.) to Mrs. R. K. Morecom for "Cornish Pitch." *Fifth* (10s.) to Mrs. W. Hughes for "Welwyn Shasta."
- CLASS 44.—SAANEN SHE-GOATS, entered or eligible for entry in the Saanen Section of the Herd Book. *First* (£2 10s.) to Miss J. Mostyn Owen for "Springfield Sandra." *Second* (£1 10s.) to G. E. Walsh for "Ripton Sybil." *Third* (£1) to Miss K. Parker for "Jacynth of Delamere." *Fourth* (10s.) to Miss K. Parker for "Jean of Delamere."
- CLASS 45.—BRITISH SAANEN SHE-GOATS, entered in or eligible for entry in the British Saanen Section or Register of the Herd Book. *First* (£2 10s.) to Miss M. Window Harrison for "Hartye of Weald." *Second* (£1 10s.) to Miss M. Window Harrison for "Humble of Weald." *Third* (£1) to Miss M. G. M. Madoc for "Melverley Myvita." *Fourth* (10s.) to Mrs. R. K. Morecom for "Cornish Urchinette." *Fifth* (10s.) to Miss M. Window Harrison for "Hindrance of Weald."
- CLASS 46.—ANGLO-NUBIAN SHE-GOATS, entered in or eligible for entry in the Anglo-Nubian Section of the Herd Book. *First* (£2 10s.) to Miss K. Pelly for "Theydon Butterkin." *Second* (£1 10s.) to Miss K. Pelly for "Menlo Madge." *Third* (£1) to Mrs. J. Paine for "Tamar Amber."
- CLASS 47.—BRITISH TOGGENBURG SHE-GOATS, entered in or eligible for entry in the British Toggenburg Section or Register of the Herd Book. *First* (£2 10s.) to Mrs. R. K. Morecom for "Cornish Praline." *Second* (£1 10s.) to Miss K. R. Barnaby for "Bitterne Willow." *Third* (£1) to Mrs. R. K. Morecom for "Cornish Frisky." *Fourth* (10s.) to Miss E. Swan for "Precious of Swanston."
- CLASS 48.—SHE-GOATS, ANY OTHER VARIETY.—Not eligible for previous Classes. *First* (£2 10s.) to Miss K. R. Barnaby for "Bitterne Favourite" (British). *Second* (£1 10s.) to Mrs. R. K. Morecom for "Cornish Playful" (British). *Third* (£1) to Mrs. R. K. Morecom for "Cornish Wibblywob" (British). *Fourth* (10s.) to Mrs. J. Paine for "Stratvale Tulip" (British).
- CLASS 49.—BRITISH ALPINE GOATLINGS, entered in or eligible for entry in the British Alpine Section or Register of the Herd Book, over 1 year but not exceeding 2 years old. *First* (£2 10s.) to J. R. Egerton for "Malpas Mariella." *Second* (£1 10s.) to J. R. Egerton for "Malpas Matilda." *Third* (£1) to J. R. Egerton for "Malpas Miriam."
- CLASS 50.—SAANEN OR BRITISH SAANEN GOATLINGS, entered in or eligible for entry in the Saanen Section or British Saanen Section or Register of the Herd Book, over 1 year but not exceeding 2 years old. *First* (£2 10s.) to Miss J. Mostyn Owen for "Mostyn Marirose" (British Saanen). *Second* (£1 10s.) to Miss K. Parker for "Joanette of Delamere" (Saanen). *Third* (£1) to G. E. Walsh for "Ripton Star" (Saanen). *Fourth* (10s.) to Miss M. Window Harrison for "Humm of Weald" (British Saanen).

CLASS 51.—ANGLO-NUBIAN GOATLINGS, entered in or eligible for entry in the Anglo-Nubian Section of the Herd Book, over 1 year but not exceeding 2 years old. *First* (£2 10s.) to J. R. Egerton for "Malpas Moya." *Second* (£1 10s.) to Miss K. Pelly for "Theydon Bellaritza." *Third* (£1) to J. R. Egerton for "Malpas Musette." *Fourth* (10s.) to Miss K. Pelly for "Theydon Averill."

CLASS 52.—TOGGENBURG OR BRITISH TOGGENBURG, GOATLINGS entered in or eligible for the Toggenburg Section or British Toggenburg Section or Register of the Herd Book, over 1 year but not exceeding 2 years old. *First* (£2 10s.) to Miss M. Window Harrison for "Secca of Weald" (Toggenburg). *Second* (£1 10s.) to H. Nettleton for "Gawthorpe Sally" (British Toggenburg). *Third* (£1) to Miss M. Window Harrison for "Omy of Weald" (Toggenburg).

CLASS 53.—GOATLINGS, ANY OTHER VARIETY.—Not eligible for previous Classes, over 1 year but not exceeding 2 years old. *First* (£2 10s.) to J. R. Egerton for "Malpas Meda" (British). *Second* (£1 10s.) to Mrs. T. L. Paisley for "Kinneddar Jackdaw" (British). *Third* (£1) to Mrs. T. L. Paisley for "Kinneddar Jay" (British). *Fourth* (10s.) to A. Smith for "Treeland Betty" (British).

CHEESE.

TROPHIES AND CUPS.

Open to all Varieties.

THE "LONSDALE" PERPETUAL CHALLENGE TROPHY (presented by the EARL OF LONSDALE, K.G., G.C.V.O.), for the best exhibit of Cheese made on the farm occupied by the Exhibitor, and the product of whole milk produced thereon. Awarded to T. W. Fearnall for Cheshire.

Open only to Scottish Cheese.

THE AYRSHIRE AGRICULTURAL ASSOCIATION'S PERPETUAL CHALLENGE TROPHY (presented by LORD ROWALLAN), for the best exhibit of Scottish Cheese. Such cheese to be made on the farm in Scotland occupied by the Exhibitor and to be the product of whole milk produced thereon. Awarded to D. Gilchrist for Ayrshire Dunlop.

Open only to Cheddar.

CHAMPION CUP, value £10 10s. (presented by the CORPORATION OF THE CITY OF LONDON), for the best exhibit of Cheddar Cheese. Awarded to S. T. White.

Open only to Dominion Cheddar.

THE "BLEDISLOE" PERPETUAL CHALLENGE TROPHY, value 50 Guineas (presented by VISCOUNT BLEDISLOE, P.C., G.C.M.G., K.B.E.), for the best exhibit of Cheddar Cheese produced in the British Empire (overseas), excluding Irish Free State. Awarded to Goodwood Co-operative Dairy Co., New Zealand.

THE "BLEDISLOE" PERPETUAL CHALLENGE CUP, value 50 Guineas (presented by VISCOUNT BLEDISLOE, P.C., G.C.M.G., K.B.E.), for the Provincial Area of New Zealand exhibiting the best Cheese. Awarded to the Province of Otago.

THE "HANSEN" CHALLENGE TROPHY, value £25 (presented by MESSRS. CHR. HANSEN'S LABORATORY, LTD.), for the best exhibit of Cheddar Cheese produced in the British Empire (overseas), excluding Irish Free State. Awarded to Goodwood Co-operative Dairy Co., New Zealand.

Open only to Cheshire.

THE "BLAND" CHALLENGE CUP (value 20 Guineas) and £5 in cash (presented by Mr. C. BLAND) for the best exhibit of Cheshire Cheese. Awarded to T. W. Fearnall.

CHAMPION CUP, value £10 10s. (presented by the CORPORATION OF THE CITY OF LONDON), for the best exhibit of Cheshire Cheese. Awarded to T. W. Fearnall.

Open only to Small Hard Pressed.

A SILVER FRUIT DISH (presented by MRS. A. S. McWILLIAM, M.B.E.), for the best exhibit of small pressed, quick-ripening cheese. Awarded to P. H. Walley.

Open only to Inter-County Class.

THE "INTER-COUNTY" CHALLENGE SHIELD (presented by the late JOHN BENSON), for the winner of the Inter-County Cheese Competition. Awarded to Monmouthshire.

CLASS 54.—STILTON (6 Cheeses). Open only to Dairy Farmers. (Factors or Factories are not eligible to compete.)—Cancelled.

CLASS 55.—STILTON (12 Cheeses.—*First* (£10 and Silver Medal) to Long Clawson Dairy, Ltd. (Long Clawson). *Second* (£5) to Long Clawson Dairy, Ltd. (Hose). *Third* (£3) to Emberlin & Co., Ltd. *Fourth* (£1) to J. M. Nuttall & Co., Ltd.

CLASS 56.—STILTON (BLUE), NATIONAL MARK (6 Cheeses).—*First* (£6) to Long Clawson Dairy, Ltd. (Hose). *Second* (£4) to Long Clawson Dairy, Ltd. (Long Clawson). *Third* (£2) to Bevamed Dairies, Ltd. (Melton Mowbray). *Fourth* (£1) to Colston Bassett & District Dairy, Ltd.

CLASS 57.—CHEDDAR TRUCKLES (6 Cheeses).—Open only to Dairy Farmers. (Factors or Factories are not eligible to compete.)—*First* (£4) to S. T. White. *Second* (£3) to W. Cole. *Third* (£2) to R. A. Perry. *Fourth* (£1) to E. J. Loder. *Fifth* (£1) to A. H. Hunt. *Sixth* (£1) to E. G. White.

CLASS 58.—CHEDDAR (2 Cheeses, not less than 40 lbs. each). Open only to Dairy Farmers. (Factors or Factories are not eligible to compete.)—*First* (£6) to N. Osborne. *Second* (£4) to E. G. White. *Third* (£3) to B. H. J. W. White. *Fourth* (£2) to A. H. Hunt. *Fifth* (£1) to E. J. Loder. *Sixth* (£1) to A. G. Brickell. *Seventh* (£1) to W. H. Longman. *Eighth* (£1) to J. B. Sproat. *Ninth* (£1) to A. A. Payne. *Tenth* (£1) to C. Higgins.

CLASS 59.—CHEDDAR AND CHEDDAR TRUCKLES (Long Keeping). (4 Cheeses, not less than 10 lbs. each, made on or before 31st July, 1937.) Open only to Dairy Farmers. (Factors or Factories are not eligible to compete.)—*First* (£7) to S. T. White. *Second* (£5) to N. Osborne. *Third* (£4) to B. H. J. W. White. *Fourth* (£3) to F. Portch.

CLASS 60.—CHEDDAR (6 Cheeses). Open only to Dairy Farmers. (Factors or Factories are not eligible to compete.)—*First* (£12 and Silver Medal) to S. T. White. *Second* (£10) to N. Osborne. *Third* (£7) to B. H. J. W. White. *Fourth* (£5) to E. G. White. *Fifth* (£4) to H. J. Osborne. *Sixth* (£4) to W. H. Amesbury. *Seventh* (£4) to Mrs. McMurray. *Eighth* (£4) to F. Portch. *Ninth* (£4) to L. F. Read. *Tenth* (£4) to W. Mathie.

CLASS 61.—FACTORY CHEDDAR (to be manufactured at and exhibited by a recognised Cheese Factory dealing with a minimum of 500 gallons of milk daily in the United Kingdom. 6 Cheeses of not less than 28 lbs. each (any variety).—*First* (£6) to R. G. Mapstone. *Second*

(£4) to Scottish Milk Marketing Board (Dalbeattie). *Third* (£2) to Milk Marketing Board (Aspatiria). *Fourth* (£1) to Scottish Co-operative Wholesale Society. *Fifth* (£1) to Aplin & Barrett, Ltd. (Crewkerne). *Sixth* (£1) to United Creameries, Ltd. (Sorbie).

CLASS 62.—SMALL CHEDDAR (4 Cheeses, made at home, not exceeding 10 lbs. each). Open to Pupils who have received instruction at an Agricultural College or Farm School during 1935, 1936 or 1937.—*First* (£3) to W. H. Amesbury. *Second* (£2) to Mrs. Marriott. *Third* (£1) to W. J. Salmon. *Fourth* (£1) to R. W. Pickford. *Fifth* (£1) to Miss D. M. Bridle. *Sixth* (£1) to S. W. Stokes.

CLASS 63.—CHEDDAR (2 Cheeses, not less than 60 lbs. each, Coloured or Uncoloured). Open to makers only, and produced in the British Empire (Overseas), excluding Irish Free State.—*First* (Gold Medal) to Goodwood Co-operative Dairy Co., Goodwood, New Zealand. *Second* (Silver Medal) to Lochiel Co-operative Dairy Co., Winton, New Zealand. *Third* (Bronze Medal) to Brydone Co-operative Dairy Co., Edendale, New Zealand.

CLASS 64.—CHESHIRE (6 Cheeses). Open only to Dairy Farmers. (Factors or Factories are not eligible to compete.)—*First* (£12) to J. Davies. *Second* (£8) to A. Blake. *Third* (£5) to S. Beckett. *Fourth* (£4) to H. Barnett. *Fifth* (£3) to T. H. Griffiths. *Sixth* (£3) to T. E. Beckett.

CLASS 65.—CHESHIRE (4 Coloured Cheeses, not less than 40 lbs. each). Open only to Dairy Farmers. (Factors or Factories are not eligible to compete.)—*First* (£7) to T. W. Fearnall. *Second* (£4) to T. W. Edge. *Third* (£3) to J. D. Goodwin. *Fourth* (£2) to R. Walker. *Fifth* (£1) to W. E. Blake. *Sixth* (£1) to J. H. Blake. *Seventh* (£1) to W. H. Hobson.

CLASS 66.—CHESHIRE (4 Uncoloured Cheeses, not less than 40 lbs. each). Open only to Dairy Farmers. (Factors or Factories are not eligible to compete.)—*First* (£6) to R. Walker. *Second* (£4) to T. E. Beckett. *Third* (£2) to W. H. Hobson. *Fourth* (£1) to P. H. Walley.

CLASS 67.—CHESHIRE (Long Keeping) (4 Coloured or Uncoloured Cheeses, not less than 40 lbs. each). Made on or before 31st July, 1937. Open only to Dairy Farmers. (Factors or Factories are not eligible to compete.)—*First* (£7) to H. Barnett. *Second* (£5) to T. W. Young. *Third* (£4) to J. Davies. *Fourth* (£3) to J. D. Goodwin. *Fifth* (£1) to R. Walker.

CLASS 68.—CHESHIRE (4 Cheeses, not less than 40 lbs. each). Open only to those who have never won a Prize for Cheshire Cheese at any Show of the British Dairy Farmers' Association. Open only to Dairy Farmers. (Factors or Factories are not eligible to compete.)—*First* (£5) to T. W. Fearnall. *Second* (£3) to Capt. A. Heywood-Lonsdale. *Third* (£2) to W. Rogers. *Fourth* (£1) to A. Noden. *Fifth* (£1) to H. Charlesworth.

CLASS 69.—CHESHIRE, NATIONAL MARK (4 Cheeses, not less than 40 lbs. each).—*First* (£6) to T. E. Beckett. *Second* (£4) to H. Barnett. *Third* (£2) to A. Blake. *Fourth* (£1) to T. W. Edge. *Fifth* (£1) to P. H. Walley. *Sixth* (£1) to J. J. Burston. *Seventh* (£1) to J. Davies.

CLASS 70.—FACTORY CHESHIRE (to be manufactured at and exhibited by a recognised Cheese Factory dealing with a minimum of 500 gallons of milk daily in the United Kingdom. 6 Cheeses of not less than 28 lbs. each (any variety)).—*First* (£6) to A. Heald, Ltd. *Second* (£4) to Milk Marketing Board (Wem). *Third* (£2) to Cookson's (Minshull), Ltd. *Fourth* (£1) to Staffordshire Dairies, Ltd. *Fifth* (£1) to H. S. Bostock.

- CLASS 71.—SMALL CHESHIRE (4 Cheeses, made at home, not exceeding 10 lbs. each). Open to Pupils who have received instruction at an Agricultural College or Farm School during 1935, 1936 or 1937.—*First* (£3) to Mrs. D. E. Walker. *Second* (£2) to S. Beckett. *Third* (£1) to Mrs. W. Fair. *Fourth* (10s.) to H. Barnett.
- CLASS 72.—AYRSHIRE DUNLOPS (4 Cheeses, from 40 lbs. to 60 lbs. each).—*First* (£6) to D. Gilchrist. *Second* (£4) to S. McCollm. *Third* (£2) to J. McGregor. *Fourth* (£1) to J. Galloway. *Fifth* (£1) to T. Millar.
- CLASS 73.—LEICESTER (2 Cheeses).—*First* (£4) to Midland Agricultural College. *Second* (£3) to S. Truelove. *Third* (£2) to F. W. Tomlinson.
- CLASS 74.—LANCASHIRE (2 Cheeses, not less than 30 lbs. each). Open only to Dairy Farmers. (Factors or Factories are not eligible to compete.)—*First* (£4) to E. Pelling. *Second* (£3) to Mrs. S. Mackereth. *Third* (£2) to W. Duckworth. *Fourth* (£1) to J. Cowpe.
- CLASS 75.—LANCASHIRE (Long Keeping) (2 Cheeses, not less than 30 lbs. each, made on or before 31st July, 1937). Open only to Dairy Farmers. (Factors or Factories are not eligible to compete.)—*First* (£5) to J. Spencer. *Second* (£4) to J. Cowpe. *Third* (£3) to J. Lawrenson. *Fourth* (£2) to W. Walmesley.
- CLASS 76.—DERBY (4 Uncoloured Cheeses, not less than 25 lbs. each).—*First* (£4) to Ann's Farmhouse, Ltd. *Second* (£3) to British Dairy Institute. *Third* (£2) to Midland Agricultural College.
- CLASS 77.—DOUBLE GLOUCESTER (4 Cheeses, from 26 lbs. to 30 lbs. each).—*First* (£4) to T. Durden. *Second* (£3) to W. H. Collins. *Third* (£2) to Gloucestershire Dairy Co., Ltd. *Fourth* (£1) to N. Osborne.
- CLASS 78.—SINGLE GLOUCESTER (4 Cheeses, from 13 lbs. to 15 lbs. each).—*First* (£4) to Mrs. F. J. Pain. *Second* (£3) to Midland Agricultural College. *Third* (£2) to N. Osborne. *Fourth* (£1) to T. Durden.
- CLASS 79.—CAERPHILLY (4 Cheeses, not exceeding 8 lbs. each).—*First* (£4) to Cheddar Valley Dairy Co., Ltd. *Second* (£3) to Dried Milk Products, Ltd. *Third* (£2) to L. T. Bell. *Fourth* (£1) to T. J. Collings. *Fifth* (£1) to R. G. Mapstone.
- CLASS 80.—WENSLEYDALE (Blue-moulded) (6 Cheeses).—Cancelled.
- CLASS 81.—WENSLEYDALE (White) (6 Flat Cheeses, not less than 8 lbs. and not exceeding 25 lbs. each).—*First* (£2) to Ann's Farmhouse, Ltd. *Second* (£1 10s.) to Masham Farmers' Dairy Co-operative Society. *Third* (£1) to A. Rowntree & Sons, Ltd.
- CLASS 82.—SMALL HARD PRESSED (Long Keeping) (4 Cheeses, not less than 2 lbs. and not exceeding 8 lbs. each).—*First* (£5) to H. Barnett. *Second* (£3) to Cookson's (Minshull), Ltd. *Third* (£2) to W. H. Collins. *Fourth* (£1) to T. E. Beckett. *Fifth* (£1) to P. H. Walley. *Sixth* (£1) to Gloucestershire Dairy School.
- CLASS 83.—SMALL HARD PRESSED (Quick Ripening) (4 Cheeses, not less than 2 lbs. and not exceeding 8 lbs. each).—*First* (£5) to P. H. Walley. *Second* (£3) to T. E. Beckett. *Third* (£2) to W. H. Hobson. *Fourth* (£1) to W. H. Collins. *Fifth* (£1) to H. Barnett. *Sixth* (£1) to H. H. Jones. *Seventh* (£1) to D. I. Banwell.
- CLASS 84.—SMALL HARD PRESSED (4 Cheeses, not to exceed 2 lbs. each).—*First* (£2) to Cookson's (Minshull), Ltd. *Second* (£1) to T. E. Beckett. *Third* (15s.) to Midland Agricultural College. *Fourth* (10s.) to Gloucestershire Dairy Co., Ltd. *Fifth* (10s.) to Miss J. Williams. *Sixth* (10s.) to P. H. Walley.

CLASS S5.—INTER-COUNTY COMPETITION for the Best Collection of Cheeses made by persons who have received instruction in Cheesemaking at a County Council Cheese School.—*First* (£8 and Shield) to Monmouthshire. *Instructress*: Miss M. M. Trippe. *Competitors*: Mrs. S. A. Harris, Miss D. Heath, Miss P. Crump and Miss E. Taylor. *Second* (£6) to Gloucestershire. *Instructress*: Miss A. Colnett. *Competitors*: J. Williams, B. Shield, E. Browning and R. Pain. *Third* (£4) to Denbighshire. *Instructress*: Miss A. Davies. *Competitors*: Miss B. V. Jones, Miss D. W. Jones, Miss B. P. Jones and Miss M. E. Hughes. *Fourth* (£3) to Wiltshire. *Instructress*: Mrs. I. M. Bull. *Competitors*: D. Box, R. W. Pickford, Miss A. Dyke and Miss J. White.

CLASS S6.—SWEET CREAM CHEESE, made from pure Cream only. No Milk or Curd to be added (6 Cheeses of approximately 4 ozs. each). Grease-proof paper only to be used and the Cheeses packed in cardboard boxes.—*First* (£1) to Miss M. W. Gwennap. *Second* (15s.) to S. E. Butler. *Third* (10s.) to Hammetts Dairies, Ltd.

CLASS S7.—UNRIPENED SOFT CHEESE, other than Cream Cheese made direct from Milk (4 Cheeses of approximately 8 ozs. each).—*First* (£1) to J. H. N. Roberts. *Second* (15s.) to Jersey Agricultural Products, Ltd. *Third* (10s.) to Midland Agricultural College.

COLLECTION OF PRODUCE.

CLASS S8.—Open only to individual Women's Institutes. To consist of 1 lb. Fresh Butter; 1 Trussed Fowl; 8 ozs. of Cream (raw or scalded); 8 ozs. Cream Cheese (either in two packets of 4 ozs. each, or one packet of 8 ozs.) and 1 doz. Eggs. The Collection to be packed in a box and sent to the Show by Parcel Post. Packages to be taken into consideration when making awards.—*First* (£5) to Cardinganshire Women's Institute. *Second* (£3) to Motcombe Women's Institute. *Third* (£2) to Lostwithiel Women's Institute.

BACON.

Cups, Open only to Bacon-Pig Classes.

THE "C. & T. HARRIS (CALNE), LTD." PERPETUAL CHALLENGE CUP (presented by MESSRS. C. & T. HARRIS (CALNE), LTD.), for the four best sides of Wiltshire Bacon in any one entry in Classes 92, 93, 94 or 95. Awarded to Earl of Radnor (Large White).

THE "WHITLEY" CHALLENGE CUP, value 20 Guineas (presented by the late Mr. S. R. WHITLEY), for the best exhibit in Class 92. Awarded to Earl of Radnor (Large White).

THE "BEALE" CHALLENGE CUP, value 20 Guineas (presented by CAPT. B. P. BEALE, M.C.), for the best exhibit in Class 93. Awarded to the Earl of Radnor (Large White).

THE "BLEDISLOE" BACON CHALLENGE CUP, value 20 Guineas (presented by VISCOUNT BLEDISLOE, P.C., G.C.M.G., K.B.E.), for the best exhibit in Class 94. Awarded to H. N. Brooking (Large White and National Long White Lop-eared).

THE "WILLS" PERPETUAL CHALLENGE CUP, value £25 (presented by Capt. D. M. Wills) for the best Large White × Large Black exhibit in Class 94. Awarded to Miss J. K. B. Little.

THE "PIG RECORDING" CHALLENGE CUP, value 20 Guineas (presented by MR. WILLIAM DAVIDSON), for the exhibit gaining the highest number of marks in Class 95, which reaches the standard of a first Class Award. Awarded to T. L. Ward (Large White and Large Black).

CLASS 89.—FOUR SMOKED SIDES, Mild Cured in Wiltshire Style, with Ham attached. Cancelled.

CLASS 90.—FOUR PALE DRIED SIDES, Mild Cured in Wiltshire Style, with Ham attached. Cancelled.

CLASS 91.—TWO SIDES OF BACON SMOKED, TWO SIDES OF BACON PALE DRIED, TWO HAMS SMOKED, AND TWO HAMS PALE DRIED. The weight of the Sides not less than 56 lbs. and not more than 68 lbs. each. The Hams not less than 12 lbs. and not more than 20 lbs. each. Cancelled.

CLASS 92.—BACON PIGS.—Four pigs, farrowed on or after 1st March, 1937, by a Registered Sire and out of a Registered Dam of the same Breed, to be entered by the Breed Society or Breeder.—*First* (£12 and Whitley Cup) to Earl of Radnor (Large White). *Second* (£6) to John White (Large White). *Third* (£3) to W. A. Whidden (Large White).

CLASS 93.—BACON PIGS (PEDIGREE). Two Pigs, farrowed on or after 1st March, 1937, by a Registered Sire out of a Registered Dam of the same Breed.—*First* (£5 and Beale Cup) to Earl of Radnor (Large White). *Second* (£3) to G. Bletcher (Large White). *Third* (£2) to R. Ewart Owen (Welsh).

CLASS 94.—BACON PIGS (FIRST CROSS). Two pigs, farrowed on or after 1st March, 1937, by a Pure-bred Sire and out of a Pure-bred Dam, the evidence required being the eligibility to register.—*First* (£5 and Bledisloe Bacon Cup) to H. N. Brooking (Large White and National Long White Lop-eared). *Second* (£3) to Miss J. K. B. Little (Large White and Large Black). *Third* (£2) to T. L. Ward (Large White and Large Black).

CLASS 95.—BACON PIGS (RECORDED). Four pigs from the same litter. One parent of the litter must be pure-bred, the evidence required being the eligibility to register.—*First* Class Award (£7 6s. 8d.) to H. R. Davidson (Large White), and two *First* Class Awards (£7 6s. 8d. each) to T. L. Ward (Large White and Large Black).

CLASS 96.—FOUR SIDES OF BACON, suitable for the London Market. Produced in the British Empire (Overseas), excluding Irish Free State. Open to Curers only.—*First* (Silver Medal) and *Second* (Bronze Medal) to Durmarts, Ltd., Ontario, Canada.

HAMS.

CLASS 97.—FOUR PALE DRIED (long cut, of Winter or Spring cure, not over 14 lbs. weight).—*First* (Silver Medal) and *Second* (Bronze Medal) to J. E. Downs & Sons.

CLASS 98.—FOUR PALE DRIED (long cut, of Winter or Spring cure, over 14 lbs. weight).—*First* (Silver Medal) to J. E. Downs & Sons. *Second* (Bronze Medal) to J. A. Hunter & Co., Ltd.

CLASS 99.—FOUR SMOKED (long cut, mild cured, not over ten weeks cured, not over 15 lbs. weight).—*First* (Silver Medal) to Hollingsworth's. *Second* (Bronze Medal) to J. E. Downs & Sons.

CLASS 100.—FOUR PALE DRIED (long cut, mild cured, not over ten weeks cured, over 15 lbs. weight).—*First* (Silver Medal) to J. E. Downs & Sons. *Second* (Bronze Medal) to J. A. Hunter & Co., Ltd.

CLASS 101.—SELLING CLASS, ANY VARIETY. Two Hams.—*First* (£2) and *Second* (£1) to J. E. Downs & Sons. *Third* (10s.) to J. A. Hunter & Co., Ltd.

BUTTER.

(Open to Makers only residing in any part of Great Britain or Ireland.)
Cup for 2 lb. Butter Classes.

CHAMPION CUP, value £10 10s. (presented by the CORPORATION OF THE CITY OF LONDON), for the best exhibit of Butter in Classes 102 to 109 inclusive. Awarded to Mrs. J. Way.

CLASS 102.—SLIGHTLY SALTED, open only to farmers, their wives, sons and daughters who have never won a Prize in the Butter Classes at any of the Association's Shows. 2 lbs. in 1-lb. lumps (brick shape).—*First* (£3) to Miss M. W. Gwennap. *Second* (£2) to Miss M. Tripp. *Third* (£1) to Mrs. E. Cowling. *Fourth* (10s.) to Mrs. W. Lawson. *Fifth* (5s.) to Miss M. D. Wearne. *Sixth* (5s.) to Miss G. G. Olde.

CLASS 103.—PERFECTLY FREE FROM SALT, the produce of Channel Islands Cattle and their Crosses. 2 lbs. in 1-lb. lumps (brick shape).—*First* (£3) to Mrs. J. Mogford. *Second* (£2) to Mrs. Pitman. *Third* (£1) to Mrs. A. G. Dennis. *Fourth* (10s.) to Miss A. M. Ward. *Fifth* (5s.) to Mrs. J. Way.

CLASS 104.—SLIGHTLY SALTED, the produce of Channel Islands Cattle and their Crosses. 2 lbs. in 1-lb. lumps (brick shape).—*First* (£3) to Mrs. J. Mogford. *Second* (£2) to Mrs. A. G. Dennis. *Third* (£1) to Miss M. W. Gwennap. *Fourth* (10s.) to Mrs. G. E. Blackler. *Fifth* (5s.) to Mrs. J. Way.

CLASS 105.—PERFECTLY FREE FROM SALT, the produce of Shorthorn and other Cattle and their Crosses (except Channel Islands and their Crosses). 2 lbs. in 1-lb. lumps (brick shape).—*First* (£3) to Mrs. J. Mogford. *Second* (£2) to Mrs. G. E. Blackler. *Third* (£1) to Mrs. A. G. Dennis. *Fourth* (10s.) to J. Iceton. *Fifth* (5s.) to Miss A. M. Ward. *Sixth* (5s.) to Midland Agricultural College. *Seventh* (5s.) to Mrs. M. E. Inge.

CLASS 106.—SLIGHTLY SALTED, the produce of Shorthorn and other Cattle and their Crosses (except Channel Islands and their Crosses). 2 lbs. in 1-lb. lumps (brick shape).—*First* (£3) to Mrs. H. Roberts. *Second* (£2) to Miss A. M. Ward. *Third* (£1) to Mrs. G. E. Blackler. *Fourth* (10s.) to Mrs. J. Mogford. *Fifth* (5s.) to Mrs. A. G. Dennis. *Sixth* (5s.) to Mrs. P. Roach. *Seventh* (5s.) to J. Iceton.

CLASS 107.—SLIGHTLY SALTED, to be made from Scalded Cream only. 2 lbs. in 1-lb. lumps (brick shape).—*First* (£3) to Miss M. W. Gwennap. *Second* (£2) to Mrs. A. G. Dennis. *Third* (£1) to Mrs. J. Way. *Fourth* (10s.) to Mrs. P. Roach. *Fifth* (5s.) to Midland Agricultural College.

CLASS 108.—PERFECTLY FREE FROM SALT, to be made from Scalded Cream only. 2 lbs. in 1-lb. lumps (brick shape).—*First* (£3) to Mrs. J. Mogford. *Second* (£2) to Mrs. A. G. Dennis. *Third* (£1) to Miss M. W. Gwennap. *Fourth* (10s.) to Miss A. M. Ward. *Fifth* (5s.) to Mrs. J. Way.

CLASS 109.—ESPECIALLY FOR KEEPING, slightly Salted. 2 lbs. in 1-lb. lumps (brick shape).—*First* (£3) to Mrs. J. Way. *Second* (£2) to Mrs. J. Mogford. *Third* (£1) to Miss A. M. Ward. *Fourth* (10s.) to Mrs. A. G. Dennis. *Fifth* (5s.) to Midland Agricultural College. *Sixth* (5s.) to Mrs. M. W. Gwennap.

CLASS 110.—SLIGHTLY SALTED, made from Goats' Milk (butter colouring may be used). 1 lb. in $\frac{1}{2}$ -lb. lumps (brick shape).—*First* (£1 10s.) to Miss M. Window Harrison. *Second* (£1) to Miss V. F. Window Harrison. *Third* (10s.) to J. Iceton.

CLASS 111.—SALTED, in wooden boxes containing 12 1-lb. vegetable parchment wrapped bricks. Cartons are not allowed.—*First* (£3) to Adams (Wholesale) Dairies. *Second* (£2) to Boherlahan Co-operative Dairy Society. *Third* (£1) to Milk Marketing Board (Millbank). *Fourth* (10s.) to Kilross Co-operative Dairy Society, Ltd. *Fifth* (10s.) to Scottish Milk Marketing Board (Mauchline).

CLASS 112.—UNSALTED, in wooden boxes containing 12 1-lb. vegetable parchment wrapped bricks. Cartons are not allowed.—*First* (£3) to Boherlahan Co-operative Dairy Society. *Second* (£2) to Garryspillane Creamery. *Third* (£1) to Shanagolden Co-operative Dairy Society, Ltd. *Fourth* (10s.) to Milk Marketing Board (Millbank).

CLASS 113.—SALTED, in bulk, in 28-lb. vegetable parchment lined wooden boxes.—*First* (£3) to Kilross Co-operative Dairy Society, Ltd. *Second* (£2) to Adams (Wholesale) Dairies. *Third* (£1) to Milk Marketing Board (Millbank). *Fourth* (10s.) to Garryspillane Creamery. *Fifth* (10s.) to Boherlahan Co-operative Dairy Society.

CLASS 114.—SALTED, in bulk, in 56-lb. vegetable parchment lined wooden boxes.—*First* (£3) to Boherlahan Co-operative Dairy Society. *Second* (£2) to Adams (Wholesale) Dairies. *Third* (£1) to Milk Marketing Board (Millbank). *Fourth* (10s.) to Kilross Co-operative Dairy Society, Ltd.

CLASS 115.—TWO POUNDS, made up in the most attractive form for Table use. Scotch hands, moulds, &c., may be used for shaping the Butter (touching it directly by the human hand is prohibited).—*First* (£4) to Mrs. J. Mogford. *Second* (£2) to Mrs. A. G. Dennis. *Third* (£1) to Miss A. M. Ward.

CLASS 116.—FANCY OR ORNAMENTAL DESIGN, with foliage or other extraneous decoration.—*First* (£4) to Mrs. F. G. Dolbear. *Second* (£2) No Award. *Third* (£1) to J. Iceton.

CLASS 117.—SALTED (Produced in the British Empire (Overseas), excluding Irish Free State). One cube box containing not less than 56 lbs.—*First* (Gold Medal) to Manning River Co-operative Dairy Society, Ltd., Jones' Island, Manning River, New South Wales, Australia. *Second* (Silver Medal) to South Australian Farmers' Co-operative Union, Ltd., Naracoorte Butter Factory, South Australia. *Third* (Bronze Medal) to South Burnett Co-operative Dairy Association, Ltd., Murgon Factory, Queensland, Australia.

CLASS 118.—UNSALTED (Produced in the British Empire (Overseas), excluding Irish Free State). One cube box containing not less than 56 lbs.—*First* (Gold Medal) to Downs Co-operative Dairy Association, Ltd., Toowoomba Factory, Queensland, Australia. *Second* (Silver Medal) to Downs Co-operative Dairy Association, Ltd., Crows Nest Factory, Queensland, Australia. *Third* (Bronze Medal) to Natal Creamery, Ltd., Mooi River, Natal, South Africa.

CREAM.

CLASS 119.—CLOTTED CREAM, with a fat content of not less than 50 per cent., to be exhibited in vessels supplied by the British Dairy Farmers' Association. Open only to Wholesale Creameries and Factories. *First* (£2 and Silver Medal) to C. & G. Prideaux, Ltd. *Second* (£1) to South Western Dairies, Ltd. *Third* (10s.) to Hammett's Dairies, Ltd.

CLASS 120.—CREAM. Each exhibit to contain one vessel of pasteurized cream with a fat content of not less than 50 per cent. and not more than 55 per cent.; one vessel of pasteurized, homogenized cream with a fat content of not less than 25 per cent. and not more than 30 per cent., and one vessel of pasteurized, homogenized cream with a fat content of not less than 15 per cent. and not more than 20 per cent. The vessels to be supplied by the British Dairy Farmers' Association. Open only to Wholesale Creameries and Factories.—*First* (£2 and Challenge Cup) to C. Greenwood. *Second* (£1) to Hammett's Dairies, Ltd. *Third* (10s.) to Wilts United Dairies, Ltd. (Melksham).

CLASS 121.—CLOTTED CREAM, with a fat content of not less than 50 per cent., to be exhibited in vessels to be supplied by the British Dairy Farmers' Association. Not open to Wholesale Creameries and Factories.—*First* (£2 and Silver Medal) to Mrs. E. White. *Second* (£1) to Miss I. G. Roach. *Third* (10s.) to Miss E. T. Parker. *Fourth* (10s.) to Mrs. W. R. Beer.

CLASS 122.—CREAM OTHER THAN CLOTTED, with a fat content of no less than 50 per cent. and not more than 55 per cent., to be exhibited in vessels supplied by the British Dairy Farmers' Association. Not open to Wholesale Creameries and Factories.—*First* (£2 and Silver Medal) to J. M. Fraser. *Second* (£1) to Miss I. G. Roach. *Third* (10s.) to Mrs. Howard Palmer.

BOTTLED AND CANNED FRUITS, FRUIT JUICES, VEGETABLES AND JAMS.

THE BRITISH DAIRY FARMERS' ASSOCIATION'S SILVER MEDAL for the best exhibit in Classes 123 and 133.—Awarded to Miss E. A. Webb for Bottled Fruit.

CLASS 123.—SIX BOTTLES OF SOFT FRUIT, of not less than 4 varieties.—*First* (£2) to Miss Alden. *Second* (£1) to Miss E. M. Wing. *Third* (10s.) to Mrs. J. Roberts.

CLASS 124.—SIX BOTTLES OF STONE FRUIT, of not less than 4 varieties.—*First* (£2) to Miss E. A. Webb. *Second* (£1) to Mrs. D. Gee. *Third* (10s.) to Miss M. Clark.

CLASS 125.—THREE BOTTLES OF SOFT FRUIT (distinct).—*First* (£1) to Mrs. J. B. Spite. *Second* (10s.) to Mrs. D. Gee. *Third* (7s. 6d.) to Miss E. M. Wing.

CLASS 126.—THREE BOTTLES OF STONE FRUIT (distinct).—*First* (£1) to Miss E. M. Wing. *Second* (10s.) to Mrs. S. Sherwin. *Third* (7s. 6d.) to Miss R. James.

CLASS 127.—THREE BOTTLES OF STONE OR SOFT FRUIT (distinct).—*First* (£1) to Miss E. M. Wing. *Second* (10s.) to Mrs. E. Parker. *Third* (7s. 6d.) to Mrs. C. Perks.

CLASS 128.—THREE CANS OF STONE OR SOFT FRUIT (distinct).—*First* (£1) to Miss E. A. Webb. *Second* (10s.) to Miss M. E. Rivers. *Third* (7s. 6d.) to Mrs. G. M. Ingoldby.

CLASS 129.—THREE BOTTLES OF PURE NATURAL FRUIT JUICES (not exceeding approximately 12 ozs.), of any variety, free from any synthetic ingredient and produced from fruit grown in the United Kingdom. Permitted preservative allowed.—*First* (£2) to H. W. Carter & Co., Ltd. *Second* (£1) to Miss M. Clark. *Third* (10s.) to Miss M. L. Hope.

CLASS 130.—SIX BOTTLES OF VEGETABLES, of not less than 4 varieties (Tomatoes admitted).—*First* (£2) to Mrs. C. Perks. *Second* (£1) to Miss M. Clark. *Third* (10s.) to Miss J. Larter.

CLASS 131.—THREE BOTTLES OF VEGETABLES (distinct).—*First* (£1) to Miss D. Gee. *Second* (10s.) to Mrs. E. Parker. *Third* (7s. 6d.) to Mrs. J. B. Spite.

CLASS 132.—THREE CANS OF VEGETABLES (distinct).—*First* (£1) to Mrs. G. M. Ingoldby. *Second* (10s.) to Miss E. A. Webb. *Third* (7s. 6d.) to Mrs. M. E. Rivers.

CLASS 133.—THREE JARS OF JAM (1 lb. each), dissimilar, any variety. Glass Jars only to be used.—*First* (£1) to Mrs. E. Parker. *Second* (10s.) to Mrs. L. Thornley. *Third* (7s. 6d.) to Mrs. J. B. Spite.

CLASS 134.—CO-OPERATIVE EXHIBIT OF BOTTLED FRUITS (Preserved in plain water or syrup), VEGETABLES, JAMS, FRUIT JELLIES, PICKLES AND CHUTNEYS. Open only to individual Women's Institutes. Each Exhibit to be the work of not less than four Members. To consist of 3 bottles of Soft Fruit, 3 bottles of Stone Fruit, 3 bottles of Vegetables, 3 1-lb. jars of Jam or Fruit Jelly, 3 jars of Pickles or Chutney. All exhibits to be shown in glass containers and to be of not less than two varieties.—*First* (£5) to Belton Women's Institute. *Second* (£3) to Wing Women's Institute. *Third* (£2) to Balsall Common Women's Institute. *Fourth* (£2) to Barthomley Women's Institute.

HONEY, WAX, &c.

CLASS 135.—SIX JARS OF EXTRACTED LIGHT-COLOURED HONEY. 1 lb. each, approximate weight.—*First* (£1) to J. Carver. *Second* (15s.) to W. J. Goodrich. *Third* (12s. 6d.) to W. Slinger. *Fourth* (10s.) to H. Pilditch.

CLASS 136.—SIX JARS OF EXTRACTED MEDIUM-COLOURED HONEY, excluding Heather Honey. 1 lb. each, approximate weight.—*First* (£1) to H. J. Edwards. *Second* (15s.) to Miss J. Watkins. *Third* (12s. 6d.) to R. Edmondson. *Fourth* (10s.) to H. S. Barter.

CLASS 137.—SIX JARS OF EXTRACTED DARK-COLOURED HONEY, excluding Heather Honey, 1 lb. each, approximate weight.—*First* (£1) to J. Salt. *Second* (15s.) to H. S. Barter. *Third* (12s. 6d.) to A. E. Warren. *Fourth* (10s.) to R. Edmondson.

CLASS 138.—SIX JARS OF GRANULATED HONEY, excluding Heather Honey, 1 lb. each, approximate weight.—*First* (£1) to A. Underwood. *Second* (15s.) to N. F. James. *Third* (12s. 6d.) to A. E. Warren. *Fourth* (10s.) to F. W. Woof.

CLASS 139.—SIX JARS OF EXTRACTED HEATHER HONEY, 1 lb. each, approximate weight.—*First* (£1) to E. Humphreys. *Second* (15s.) to F. J. Rutherford. *Third* (12s. 6d.) to R. Edmondson. *Fourth* (10s.) to J. Fisher.

CLASS 140.—SIX JARS OF GRANULATED HONEY, three each of 1 lb. (squat) and $\frac{1}{2}$ -lb. (standard approved by the Ministry of Agriculture and Fisheries.) National Mark Labels to be attached. Open only to authorised packers of National Mark Honey.—*First* (£2) to H. S. Barter. *Second* (£1 10s.) to W. Slinger. *Third* (£1) to W. J. Goodrich. *Fourth* (15s.) to A. Underwood.

CLASS 141.—THREE SECTIONS OF HONEY, packed in standard cartons (approved by the Ministry of Agriculture and Fisheries) or cellophane wrappers. National Mark Labels to be attached. Open only to authorised packers of National Mark Honey.—*First* (£2) to A. Underwood.

CLASS 142.—SIX SECTIONS OF COMB HONEY, excluding Heather Honey (size $4\frac{1}{2}$ by $4\frac{1}{2}$), approximate weight 1 lb. each.—*First* (£1) to H. S. Barter. *Second* (15s.) to J. Carver. *Third* (10s.) to W. Salmon.

CLASS 143.—SIX SECTIONS OF HEATHER HONEY (size $4\frac{1}{2}$ by $4\frac{1}{2}$), approximate weight 1 lb. each.—*First* (£1) to H. S. Barter. *Second* (15s.) to F. J. Rutherford. *Third* (10s.) to C. H. Potter.

CLASS 144.—DISPLAY OF HONEY AND HONEY PRODUCTS, of any year staged in the most attractive form on a space 3 feet by 3 feet, and height not to exceed 4 feet above the table. The Products not including Mirrors and Sheet Glass to be above 50 lbs. but not exceeding 100 lbs. in weight. No flowers allowed.—*First* (£5) to H. S. Barter. *Second* (£2) to A. Underwood.

CLASS 145.—ONE SHALLOW-FRAME OF COMB HONEY, suitable for extracting.—*First* (15s.) to H. S. Barter. *Second* (10s.) to A. Underwood. *Third* (7s. 6d.) to N. F. James.

CLASS 146.—EXHIBIT OF NOT LESS THAN 2 LBS. OF BEES' WAX, in not more than two cakes, the produce of the Exhibitor's apiary: extracted and cleaned by the Exhibitor or his assistants.—*First* (15s.) to H. S. Barter. *Second* (10s.) to H. Pilditch. *Third* (7s. 6d.) to Miss J. Watkins.

CLASS 147.—INTERESTING AND INSTRUCTIVE EXHIBIT OF A PRACTICAL OR SCIENTIFIC NATURE CONNECTED WITH BEE CULTURE, not mentioned in the foregoing classes.—*First* (15s.) to W. Slinger for Bee Hive Floorboard for general and heather use. *Second* (10s.) to H. S. Barter for showing how various coloured beeswax can be utilised for artistic purposes.

INVENTIONS, &c.

CLASS 148.—ANY NEW APPARATUS OR INVENTION relating to the Dairy Industry, or one showing distinct and practical improvement, especially as to saving of labour, not eligible for competition in any other Class and not previously having received an award at any Show of the British Dairy Farmers' Association.—Silver Medals to J. W. Woolley & Co., Ltd., for Electrically Heated Steam Boiler; and Gascoignes (Reading), Ltd., for "Gascoigne" Auto-Release Milking Plant. Bronze Medal to H. King & Son, for Hand Machine to Seal Aluminium Caps on Milk Bottles.

CLASS 149.—OIL OR GAS-FIRED OUTFITS with chest of not less than 15 cubic feet capacity.—*First* (£3 and Silver Medal) to Xlnts Patents, Ltd., for Oil and Gas-Fired Sterilizing Plant. *Second* (£2 and Bronze Medal) to Aveling-Barford, Ltd., for Oil-Fired Sterilizing Outfit.

CLASS 150.—ELECTRICALLY HEATED OUTFITS with chest of not less than 15 cubic feet capacity. In this type of plant the provision of hot water may be separate.—*First* (£3 and Silver Medal) to Aveling-Barford, Ltd. *Second* (£2 and Bronze Medal) to J. W. Woolley & Co., Ltd.

CLASS 151.—ANY NEW APPARATUS OR INVENTION relating to the Poultry Industry, or one showing distinct and practical improvement, especially as to saving of labour, not eligible for competition in any other Class and not previously having received an award at any Show of the British Dairy Farmers' Association.—Silver Medals to Papworth Industries, for Papworth Mammoth All-Electric Incubator; and Colchester Egg Packers, Ltd., for Low Temperature Gas-Storage Plant for Eggs. Bronze Medals to Curfew Electric Heaters, for "Curfew" All-Metal Laying Cages; C. A. Sydenham Hannaford, for Improved Indoor Hover; Comb-Pluckers, Ltd., for Stubbing and Downwing Machine; and Ellis Brooder Co., for The "Ellis" Patent Mammoth Progressive Brooding Plant.

CLASS 152.—GENERAL PURPOSE POULTRY HOUSE suitable for small farmers.—No entry.

CLASS 153.—OUTDOOR CHICKEN BROODER suitable for small farmers. *First* (£2 and Silver Medal) to G. Chalk, for "Sandon Ideal" Outdoor Brooder. *Second* (£1 and Bronze Medal) to D. McMaster & Co., for "Sawyer" Outdoor Brooder.

JUNKET-MAKING CONTESTS.

THE "DAILY MAIL" PERPETUAL CHALLENGE BOWL (presented by the PROPRIETORS OF THE "DAILY MAIL") for the Champion Junketmaker.—Awarded to Miss R. James.

CLASS 154.—JUNKET-MAKING CONTEST. Open only to those who have never won a First Prize for Junket-Making at any Shows of the British Dairy Farmers' Association.

SECTION A.—*First* (£2) to Miss O. Dennis. *Second* (£1) to Miss E. I. Eustice. *Third* (10s.) to Miss I. Gwennap. *Fourth* (10s.) to Miss L. G. Taylor.

SECTION B.—*First* (£2) to Miss G. G. Olde. *Second* (£1) to Miss M. Joslin. *Third* (10s.) to Mrs. M. R. Mitchell. *Fourth* (10s.) to Miss V. M. Heywood.

SECTION C.—*First* (£2) to Miss M. Eustice. *Second* (£1) to Miss D. M. Powell. *Third* (10s.) to Miss L. Prestwood. *Fourth* (10s.) to Miss P. Paull.

SECTION D.—*First* (£2) to Miss W. M. Sweetland. *Second* (£1) to Miss I. G. Roach. *Third* (10s.) to Miss B. Simpson. *Fourth* (10s.) to Miss D. E. Street.

CLASS 155.—CHAMPION CONTEST. Open to First Prize Winners in the Sections of the preceding Class and to First Prize Winners at previous Shows of the British Dairy Farmers' Association, Champions of any year excepted.—*First* (£3, "Daily Mail" Challenge Bowl and Silver Medal) to Miss R. James. *Second* (£2 and Bronze Medal) to Miss O. Dennis. *Third* (£1 and Bronze Medal) to Miss E. Abbott.

BUTTER-MAKING CONTESTS.

THE "DESBOROUGH" PERPETUAL CHALLENGE CUP (presented by LORD DESBOROUGH, K.G., G.C.V.O.), for the Champion Butter-maker.—Awarded to Miss N. M. Paull.

CLASS 156.—Open to those who have never won a Prize prior to 6th September, 1937, at any Show wherever held.

SECTION A.—*First* (£4 and Silver Medal) to Miss E. Davies. *Second* (£3) to J. Icton. *Third* (£2) to Miss V. M. Heywood. *Fourth* (£1) to Miss D. Bainbridge. *Fifth* (10s.) to Miss N. Parry.

SECTION B.—*First* (£4 and Silver Medal) to Miss M. D. Wearne. *Second* (£3) to Miss G. Roberts. *Third* (£2) to Miss B. E. Diggory. *Fourth* (£1) to Miss N. M. Lees. *Fifth* (10s.) to Miss D. M. Ripley.

CLASS 157.—Open to Students who have attended Classes at the British Dairy Institute, Reading, for not less than one month, during the past two years.—*First* (£4 and Silver Medal) to Miss M. Murray. *Second* (£3) to Miss D. M. Irvine. *Third* (£2) to Miss C. Vernon. *Fourth* (£1) to Miss M. M. Lewis. *Fifth* (10s.) to Miss G. Small.

CLASS 158.—Open only to Men and Women who have not won a First Prize at any Show of the British Dairy Farmers' Association since 1933.

SECTION A.—*First* (£4 and Silver Medal) to Miss A. J. Brush. *Second* (£3) to Miss N. M. Lees. *Third* (£2) to Miss M. D. Wearne. *Fourth* (£1) to Miss K. Crow. *Fifth* (10s.) to Miss E. Morgan.

SECTION B.—*First* (£4 and Silver Medal) to Miss Jane M. Olde. *Second* (£3) to Miss I. Gwennap. *Third* (£2) to Miss P. Jones. *Fourth* (£1) to Miss E. I. Eustice. *Fifth* (10s.) to Miss E. N. Davall.

SECTION C.—*First* (£4 and Silver Medal) to Mrs. S. I. Platt. *Second* (£3) to Miss M. A. Edwards. *Third* (£2) to Miss G. G. Olde. *Fourth* (£1) to Miss J. C. Cockburn. *Fifth* (10s.) to Miss I. G. Roach.

SECTION D.—*First* (£4 and Silver Medal) to Mrs. G. Griffiths. *Second* (£3) to Miss M. Julian. *Third* (£2) to Miss L. Smith. *Fourth* (£1) to Miss M. M. Olde. *Fifth* (10s.) to Mrs. M. A. Hawkins.

SECTION E.—*First* (£4 and Silver Medal) to Mrs. M. R. Mitchell. *Second* (£3) to Miss D. Edwards. *Third* (£2) to Miss P. Millichip. *Fourth* (£1) to Miss M. Joslin. *Fifth* (10s.) to Miss E. Davies.

SECTION F.—*First* (£4 and Silver Medal) to Miss Violet Jones. *Second* (£3) to Miss P. Peer. *Third* (£2) to Miss M. Bennett. *Fourth* (£1) to Miss D. M. Powell. *Fifth* (10s.) to Miss A. Bernard.

CLASS 159.—CHAMPION CONTEST. Open to Winners of First Prizes in the Sections of preceding Classes and at any of the last three Shows of the British Dairy Farmers' Association, Champions of any year excepted.—*First* ("Desborough" Challenge Cup, £5 and Gold Medal) to Miss N. M. Paull. *Second* (£3 and Silver Medal) to Mrs. S. I. Platt. *Third* (£1 and Bronze Medal) to Miss D. E. J. Browning.

MILKERS' CONTESTS.

CLASS 160.—Open to Men and Women of 18 years and over.

SECTION A.—*First* (£5) to Miss F. G. M. Seymour. *Two Equal Seconds* (£3 10s. each) to Miss B. Evans and A. Wheeler. *Fourth* (£1) to Miss J. M. Olde. *Fifth* (10s.) to A. Wainwright.

SECTION B.—*First* (£5) to E. M. Edge. *Second* (£4) to R. Phillips. *Two Equal Thirds* (£2 each) to Miss Violet Jones and G. J. Ephraim. *Fifth* (10s.) to Miss L. Prestwood.

SECTION C.—*First* (£5) to Miss S. Harries. *Second* (£4) to C. L. Jenkins. *Third* (£3) to Miss J. Phillips. *Fourth* (£1) to Hugh H. Jones. *Fifth* (10s.) to C. J. Keen.

SECTION D.—*First* (£5) to J. H. Richards. *Two Equal Seconds* (£3 10s. each) to Miss E. Bowen and P. C. Williams. *Fourth* (£1) to A. W. Culley. *Fifth* (10s.) to J. A. Dandy.

CLASS 161.—Open to Boys and Girls under 18 years.—*First* (£5) to Miss R. Headly. *Second* (£4) to Miss N. Thomas. *Third* (£3) to Miss D. M. Jones. *Fourth* (£1) to Miss J. Rogers. *Fifth* (10s.) to Billy Woollacott.

CLASS 162.—Open only to Herdsmen attending Cattle at the 1937 Dairy Show.—*First* (£4) to J. H. Brown. *Two Equal Seconds* (£2 10s. each) to H. Walker and J. W. Perry. *Fourth* (£1) to O. A. Lee. *Fifth* (10s.) to Miss A. Gill. *Sixth* (5s.) to T. Brown.

CLASS 163.—CHAMPION CONTEST. Open to Winners of First Prizes in the sections of Classes 160 and 161 and Class 162. Also to First Prize Winners at the 1936 Dairy Show of the British Dairy Farmers' Association. Champions of any year excepted.—*First* (Cup, Gold Medal and £2) to Miss N. Evans. *Second* (£1 and Silver Medal) to Miss S. Harries. *Third* (£1 and Bronze Medal) to E. M. Edge.

COW JUDGING CONTEST.

CLASS 164.—Open to Teams of Students from Agricultural Colleges, Farm Institutes, and/or County Councils. *Prize* (British Dairy Farmers' Association's Challenge Cup) to Devon County. Silver Medals to Miss G. Figg, N. J. Hunt and G. P. Giles—Members of the winning team. Bronze Medals to Miss K. Curnow, R. J. Davey and W. T. R. Hawke of Mid-Cornwall team, placed second.

LIST OF JUDGES AT THE 1937 DAIRY SHOW

MILKING TRIALS.

J. G. W. STAFFORD, The Midland Agricultural College, Sutton Bonington.
S. BARTLETT, National Institute for Research in Dairying, Shinfield.
T. J. DRAKELEY, Ph.D., M.Sc., F.C.S., F.I.C., 28, Russell Square, W.C.1.
J. MACKINTOSH, National Institute for Research in Dairying, Shinfield.
E. W. S. PRESS, B.Sc., A.I.C., F.C.S., 252, Caledonian Road, N. 1.

BUTTER TESTS.

BLDISLOE CHALLENGE TROPHY.

WALTER WILSON, Helm Drive, Kendal.

SUPREME INDIVIDUAL CHAMPIONSHIP CHALLENGE TROPHY.

T. C. GOODWIN, Leighton Grange, Crewe.

CATTLE.

Shorthorn (Pedigree).

Captain T. ALLEN STEVENS, Wicklesham Lodge, Faringdon, Berks.
E. MCGREGOR, Leicester Lane, Leamington Spa.

Shorthorn (Non-Pedigree).

G. HEMSLEY, Boat House Farm, Isfield, Sussex.

Lincolnshire Red Shorthorn.

H. C. HOLM, The Grange, Carlton Curliu, Leicester.

British Friesian.

A. MACINTYRE, Dunallan, Rothesay, Bute.
F. H. COCK, Prestbury Park, Evesham Road, Cheltenham, Glos.

South Devon.

B. CAMP, Widland, Modbury, S. Devon.

Red Poll.

W. T. DYER, Rayne Hill, Braintree, Essex.

Ayrshire.

J. YOUNG, Mouswald Grange, Collin, Dumfries.

Guernsey.

E. W. BESENT, Estate Office, Gaddesden Place, Hemel Hempstead.

Jersey.

G. MCWILLIAM, Dunwood, Manor Farm, Romsey, Hants.

GOATS.

SAM WOODIWISS, Sedgemere, Great Waltham, Chelmsford.

CHEESE.

The "Lonsdale" and Ayrshire Agricultural Association's Challenge Trophies.
E. PAKEMAN, Messrs. Etches, Smith Cox & Co., Derby.

Stilton and Wensleydale.

Miss J. STUBBS, Lancashire C. C. Dairy School, Hutton, Preston.

Cheddar and Gloster.

R. BRYAN, Messrs. W. Cary & Son, Ltd., Shepton Mallet, Somerset.
G. W. SYMONDS, Messrs. Crump, Way & Sons, Market Street, Wells, Somerset.
P. L. ROBERTS, Messrs. Aplin & Barrett, Ltd., Yeovil.
F. MUNNS, Gillingham House, Gillingham Street, Victoria, S.W. 1.

Colonial Cheddar.

W. G. OAKLEY, Messrs. Spear Bros. & Clark, Ltd., 36, Victoria Street, Bristol.

Cheshire.

J. W. EMBERTON, The Cedars, Nantwich.
R. E. HANCOCK, 23, Hanging Ditch, Manchester.
L. E. NORTON, Station Road, Whitchurch.
A. WEAVER, Messrs. J. Weaver & Co., Ltd., 65, Victoria Street, Liverpool.

Ayrshire Dunlop.

ALEC TODD, British Dairy Institute, Reading.

Leicester and Derby.

D. H. ORME, The Square, Bakewell, Derbyshire.

Lancashire.

T. E. BEE, Bay Horse, near Lancaster.

Caerphilly.

J. H. MACKIE, Park Cottage, Castle Cary, Somerset.

Small Hard-Pressed and Inter-County.

Miss E. NOBLE, Farm Institute, Penkridge, Stafford.

Cream and Unripened Soft.

Miss A. SHEPPARD, British Dairy Institute, Reading.

COLLECTION OF PRODUCE.

Miss V. E. CHEKE, British Dairy Institute, Reading.

BACON AND HAMS.

J. J. PLUMMER, Messrs. Spear Bros. & Clark, Ltd., Broad Plain Bacon Factory, Bristol, 2.

BUTTER.

2 lb. Classes.

Miss F. COWARD, Park House, Barrow-in-Furness.
Miss E. M. DAWSON, 1, College Hill, Shrewsbury.
Mrs. J. ROSS, 12, Reid Avenue, Douglas Park, Bearsden, Glasgow.

Commercial.

G. SUTHERLAND THOMSON, 31, Tooley Street, London, S.E. 1.

Fancy and Ornamental.

Miss A. O'BRIEN, Editorial Dept., Northcliffe House, E.C. 4.

Miss E. NOBLE, Farm Institute, Penkridge, Stafford.

Dominion Salted.

W. E. BULMER, 9, Custom House Street, Cardiff.

L. CLASSEY, Westwood House, Woodborough Road, London, S.W. 15.

Dominion Unsalted.

H. RIDGWAY, 7, Clarence Parade, Southsea.

E. SALLES, Messrs. Harrod's, Ltd., Knightsbridge, S.W. 1.

CREAM.

Miss E. BRAY, Bradninch Hall, Castle Street, Exeter.

BOTTLED FRUITS, VEGETABLES AND JAMS.

Miss J. FERGUSON, Research Station, Long Ashton, Bristol.

HONEY AND WAX.

J. BROWN, 31, Bridge Street, Bristol.

INVENTIONS.

E. CAPSTICK, Staplemead, Frome, Somerset.

C. N. GOODE, The Croft, Bedford Road, Northants.

J. G. STAPLETON, Owles Hall, Crews Hill, Middlesex.

J. TAYLOR, Lauriston, Goldhanger, Maldon.

JUNKET-MAKING CONTESTS.

Miss M. E. WILLATTS, Tythe Farm, Wraysbury, Staines.

Championship Class.

Mrs. L. R. MILDON, Charlton Cottage, Tiverton, Devon.

BUTTER-MAKING CONTESTS.

Mrs. A. S. MCWILLIAM, The Orchard, Bakewell, Derbyshire.

Mrs. C. E. WILSON, Mace Farm, Cudham, Kent.

Championship Class.

E. CAPSTICK, Staplemead, Frome, Somerset.

MILKERS' CONTESTS.

J. M. DONE, Larkton House, Malpas, Cheshire.

B. J. FRICKER, Berkeley House, Berkeley Street, Gloucester.

COW-JUDGING CONTESTS.

W. A. C. CARR, Cheshire School of Agriculture, Reaseheath, Nantwich.

JOHN PORTER, Cromhamstone, near Aylesbury.

THE OBJECTS OF THE BRITISH DAIRY FARMERS' ASSOCIATION.

In 1876 the British Dairy Farmers' Association was founded by a small group of men who realised the need for an Association to stimulate interest in the development of the industry, and to guide its progress along lines suitable to the needs of the milk producer and manufacturer of dairy produce. In 1879 the Association was incorporated under licence of the Board of Trade, and since that date has become the premier organisation existing for the advancement of the dairy industry.

The original Memorandum of Association states that the objects for which the Association is established are "to improve the dairy stock, the dairy produce and the dairy industry of this country, and to do all such further acts and things as shall be conducive to their interests."

In pursuance of these objects the Association has introduced new schemes and extended its influence in numerous directions, and a brief summary of the chief of these is given below:—

The Dairy Show.

The first Dairy Show was held at the Agricultural Hall, Islington, in 1876. Classes were provided for dairy cattle, goats, cheese, butter, dairy appliances, poultry and pigeons, grain and hops. The total number of entries was 928. This new venture was an immediate success, and Shows have since been held annually with the exception of the years 1916 to 1918. Classes are now provided for the principal breeds of cattle and goats; varieties of cheese; butter; bacon and hams; bottled fruits; honey; poultry and pigeons; also for butter-making, junket-making and cow-judging. The Milking Trials for cows inaugurated in 1879 and the Butter Tests (1886) have gradually developed in importance and interest and are now recognised as the premier and most complete competitions of their kind in the country. Bacon classes were first provided in 1883 and have been increased and amended to suit current conditions. Competitions for hand milkers are also held during the Show, and the conditions of entry are designed to attract winners of county competitions and to improve the efficiency of milkers throughout the country. More recently cow-judging contests have been organised for teams from Agricultural Colleges, Farm Institutes, &c., and from Young Farmers' Clubs. These competitions constitute attractive features during the later days of the Show. In recent years the total number of entries at the Show has sometimes been over 10,000, and cash prizes and

trophies to the approximate value of £6,000 are now offered annually. It may now be claimed that the London Dairy Show is the chief competitive and social event of the year for British Dairy Farmers.

The British Dairy Farmers' Association Journal.

One of the first actions of the Council of the Association was the publication of a Journal containing original articles on subjects of interest to all sections of the industry, and reports of the Dairy Show and other activities of the Association. In the early years the Journal was published in two or four parts each year, but since 1899 it has been issued annually, and in its present form constitutes an indispensable annual addition to the bookshelves of every progressive dairy farmer.

Dairy Education.

(a) *The British Dairy Institute.*—When the Association was formed facilities for practical and scientific instruction in cheese-making and butter-making were almost non-existent. The Council realised that the development and adoption of the best methods on the farm would be materially enhanced by the establishment of a well-equipped dairy school, and in 1888 the British Dairy Institute was brought into existence at Aylesbury. In 1896, to provide fuller instruction in the sciences associated with dairy practice, an agreement was made with the University College of Reading (now the University of Reading) whereby the Institute was moved from Aylesbury to Reading and placed under the management of a Committee representing the Association and the University College. In 1910 a new Institute, with better equipment and accommodation for a larger number of students, was erected within the grounds of the College; further additions have been made from time to time, and for many years now the British Dairy Institute has been recognised as the leading centre for dairy education in England and Wales.

(b) *The British Dairy Farmers' Association Diplomas and Certificates.*—Since 1887 diplomas and certificates in the science and practice of dairying have been awarded on the results of examinations at the British Dairy Institute. In 1893 it was decided that examinations for certificates of proficiency in the science and practice of cheese-making and butter-making should be held at other centres throughout the country, and at the present time such examinations are conducted at six other dairy schools in different parts of England. By the institution of this scheme, whereby the Association appoints independent examiners and maintains the standard of proficiency, the educational work in dairying has been extended and improved in a highly satisfactory manner.

(c) *The National Dairy Examination Board.*—The development of dairy education in England and Scotland from about 1900 onwards had led to an unnecessary duplication of diplomas in dairying, and in 1928 it was decided that the British Dairy Farmers' Association should cease to award its own diploma and should join with the Royal Agricultural Society of England and the Highland and Agricultural Society of Scotland in the formation of the National Dairy Examination Board. This Board, consisting of an equal number of members from the three parent societies, now controls and awards the National Diploma in Dairying (N.D.D.).

Dairy Research.

From time to time since its formation the Association has assisted research work on problems arising in the production and manufacture of dairy produce. When the National Institute for Research in Dairying was created and began to plan its programme of research work after the war, the Association took a keen interest in its development and from time to time gave valuable financial assistance. The co-operation between the Association and the Institute has been facilitated by the presence of a member of the Council on the Board of the Institute and by the presence of one or more members of the staff of the Institute on the Council of the Association. By this co-operation and in other ways, the Association has maintained and developed its interest in research work for the improvement of the methods adopted in the practice of milk production and the manufacture of dairy produce.

Dairy Conferences and Congresses.

The Association has also organised numerous conferences and tours in different parts of the British Isles and abroad in order that subjects of special interest could be studied in detail and first-hand information obtained in new methods. These conferences have also enabled members to combine business with pleasure; to make new friends and to acquire knowledge of other practices which could not be obtained so easily or economically by private efforts.

The World's Dairy Congress, held in England in 1928, was planned and brought to a successful conclusion mainly through the efforts of the Association. Thereafter the Association was asked by a general Committee, representing the Dairy Industry of this country, to act, when necessary, on behalf of the industry as the central agent for Great Britain in connection with future World Dairy Congresses. In this capacity the Association organised the representation of this country at the Congresses held in 1931 (Denmark), 1934 (Italy) and 1937 (Germany). The

Association is also represented on the committee of the Internationale Federation de Laiterie. This committee meets from time to time to consider dairying subjects of international interest and to decide the venue of future World Congresses.

Medal Scheme.

Soon after its formation the Association encouraged the exhibition of high-class dairy stock and produce at provincial shows by offering medals as special awards, and in 1913 the medal scheme was initiated in its present form. This scheme is designed to stimulate improvements in dairy stock and produce throughout the country, by the award of silver and bronze medals through county and local societies under specified conditions. The medals are available for exhibits of dairy cattle, cheese and butter and as special awards in dairy herd, clean milk and milking competitions. Some 70 medals are allocated each year and these are competed for in some 30 counties in England and Wales. This scheme enables the Association to recognise merit and to assist and encourage those engaged in different branches of the production side of the industry in a manner which is widely appreciated.

Dairy Equipment and New Inventions.

Since the first Show classes have been provided for dairy appliances and apparatus and for new inventions of interest to the dairy industry. After several years classes for equipment were discontinued, but space was made available where manufacturers and others could display goods and visitors could inspect them. During recent years the great increase in the use of mechanical equipment in all branches of the industry has made this section of the Show much more important. To meet this need the Council recently rearranged the layout of exhibits in the Halls, and a larger proportion of floor space is now allotted for the display of dairy and poultry appliances and kindred exhibits.

In the new inventions competition the gold, silver and bronze medals awarded by the Association are highly prized. The conditions of entry have recently been revised to require submission of the entries some months before the Show in order that those of a more complex nature might be inspected in actual operation at a farm or dairy. Reports on the practical efficiency of such entries are prepared by the Association's representatives for consideration by the judges when inspecting the entries at the Show. By this system the risk of giving of awards to ingenious and attractive, but unpractical apparatus and appliances is guarded against, and buyers can be sure that these

entries which have obtained the Association's awards are reliable and efficient.

Poultry and Pigeons.

Classes for Poultry and Pigeons were provided at the first Dairy Show in 1877, and have always been a popular feature. As the years passed, this section of the Show greatly increased in size and popularity, and it is now recognised as one of the most important shows of its kind in the country. Over 30 breeds of poultry, ducks, geese and turkeys, and 34 breeds of pigeons were represented at recent shows. The organisation of this section of the Association's work is in the hands of a Poultry and Pigeon Committee, which consists of members of the Council and a few others co-opted to represent definite poultry and pigeon interests.

Other Activities.

In addition to the work briefly described herein, the Council of the Association at its monthly meetings is continually surveying the general progress of the industry and gives special attention to those points where action, either direct or through its various committees, appears to be necessary or desirable. In recent years resolutions concerning the prohibition of preservatives in cream, tariffs on imported dairy produce, the pasteurisation of milk by local authorities and standards for British cheese and for cream have been passed and forwarded to the appropriate Government Departments.

ADVANTAGES OF MEMBERSHIP.

Members of the Association receive the following privileges:—

- 1.—A free pass to all the Association's Dairy Shows, available each day during the Exhibition, with the privilege of admitting free (by ticket) a friend on any one day.
- 2.—The privilege of participating, at specially low charges, in the Dairy Conferences organised by the Association at home or abroad.
- 3.—The Exhibition of Live Stock, Dairy Produce, and Utensils (for competition) at a reduced scale of fees to Life Members, and to Annual Members subscribing £1 per annum whose subscription for the past year and current year is paid.
- 4.—A copy (free by post) of the *Journal* of the Association, published annually.
- 5.—Analyses by the Analytical and Consulting Chemist, at low fees, of samples of milk, cream, butter, cheese, feeding stuffs, water, soil, manures, &c., and advice on dairy matters connected with his department.
- 6.—Bacteriological examination of dairy produce, &c., at reduced fees.
- 7.—Examination by the Consulting Pathological Bacteriologist for particular pathogenic or disease-producing organisms.
- 8.—Professional advice and assistance at a reduced scale of charges in any case of disease among the live stock of the farm.

The Annual Subscription is £1, but Dairy Instructors and Students and full-time Secretaries and Recorders of Milk Recording Societies are admitted on payment of 10s. 6d. per annum. The latter sum entitles Members to all privileges, except the reduced fees for exhibition at the Shows. The Life Membership fee is £15.

The Council have every confidence in appealing to agriculturists of all classes, and to dairy farmers in particular, to become members of the Association.

Members' Chemical Privileges.

Free Analysis.—Each member, whose subscription for the current year is paid, is entitled to one analysis of a dairy product (paragraphs 1 to 8 below) free of charge. A stamped addressed envelope must be forwarded with the sample for the return of the report of the analysis.

Further analyses will be made by the Association's Consulting Chemist at the following reduced fees :—

			£	s.	d.
1.—MILK (Fresh).					
Estimation of Fat and Total Solids	...	...	0	1	0
Estimation of Fat, Casein, Albumen, Sugar, and Ash	...	...	0	10	0
2.—MILK (Sour).					
Estimation of Fat and Total Solids	...	...	0	5	0
3. SKIMMED MILK.					
Estimation of Fat and Total Solids	...	...	0	5	0
4.—CONDENSED MILK.					
Estimation of Fat	...	...	0	5	0
Estimation of Fat, Casein, and Solids	...	...	0	10	0
Estimation of Cane Sugar (extra)	...	...	0	5	0
5.—CREAM.					
Estimation of Fat	...	...	0	5	0
Estimation of Fat, Casein, and Solids	...	...	0	12	6
Examination for Foreign Fats (extra)	...	...	0	10	0
6.—BUTTER.					
Estimation of Water, Fat, Casein, and Ash	...	...	0	10	0
Examination for Foreign Fats (extra)	...	...	0	10	0
7.—CHEESE.					
Estimation of Water, Fat, Casein, and Ash	...	...	0	10	0
Examination for Foreign Fats (extra)	...	...	0	10	0
8.—RENNET.					
Examination of Strength	...	...	0	5	0
9.—CAKES AND MEALS.					
Estimation of Oil only	...	...	0	5	0
Estimation of Oil, Albuminoids, Carbo-hydrates, &c.	...	...	0	15	0
10.—GRASS, SILAGE, ROOTS, &c.					
Estimation of Oil, Albuminoids, Carbo-hydrates, &c.	...	...	1	10	0
11.—MANURES.					
Estimation of Soluble Phosphoric Acid	...	...	0	5	0
Estimation of Soluble and Insoluble Phosphoric Acid	...	...	0	7	6
Estimation of Citric Soluble Phosphoric Acid	...	...	0	7	6
Estimation of Nitrogen	...	...	0	5	0
Estimation of Potash	...	...	0	7	6
12.—SOIL.					
Estimation of Lime	...	...	0	5	0
Analysis and Report	...	...	2	2	0
13.—WATER.					
Analysis for Drinking or Dairy Purposes	...	...	1	1	0
14.—CIDER AND FERMENTED DRINKS.					
Estimation of Alcohol	...	...	0	7	6
Estimation of Alcohol, Sugar, Acidity, &c.	...	...	0	15	0
15.—PRESERVATIVES.					
Examining a Substance for Boracic Acid or Salicylic Acid, &c., for each Substance sought	...	...	0	2	6
Estimation of the quantity of Boracic Acid	...	...	0	10	6
16.—CONSULTATIONS AND REPORTS ON SUBJECTS, BY ARRANGEMENT.					
For Letter in reply to Enquiry	...	...	Free		

NOTE.—The Consulting Chemist will be prepared to quote reduced terms to members requiring a number of analyses at frequent intervals.

Instructions for Taking Fair Samples for Analysis.

Dairy Produce.—Milk should be sent in a well-corked 8-oz. clear bottle. The milk should quite fill the bottle. Butter or cheese, about 8 ounces; the former in a gallipot well tied down.

Soils.—A block of soil about four or five inches square, and nine inches deep, should be sent in a strong box by rail.

Artificial Manures.—Take a handful of manure out of at least half a dozen bags, mix these rapidly and thoroughly, breaking down all lumps. Forward about a pound of the mixture in a tin box, and retain the remainder. Samples of manure should be sent immediately after the delivery of the bulk. All manures should be bought subject to analysis.

Feeding Materials.—Feeding cakes, meals or grains: about a pound should be sent in a bag or box. Grass and hay: a bundle or a few pounds weight. Silage: a six-inch cubic block, packed closely in a box to keep it compressed.

Waters.—A Winchester quart glass-stoppered bottle should be procured from a druggist, well washed out with the water, then completely filled, the stopper tied securely down, and the bottle packed in a box and sent by rail.

N.B.—In order to prevent disappointment, the Chemist requests that, as far as possible, Members desiring to hold a personal consultation should make an appointment by letter. Between 10 and 4 are the hours most convenient. All communications intended for the Analytical and Consulting Chemist must be addressed direct to Dr. T. J. DRAKELEY, D.Sc., Ph.D., F.I.C., F.I.R.I., F.C.S., 28, Russell Square, London, W.C. 1.

All samples should be sent by the speediest method possible. They ought not to arrive either on Saturday or Sunday.

Members' Bacteriological Privileges.**Examination of Samples of Designated Milks.**

Samples submitted for examination under the Milk (Special Designations) Order, 1936 (Ministry of Health Memo. 139/ Foods, Jan., 1937) should be forwarded to Dr. T. J. DRAKELEY, D.Sc., Ph.D., F.I.C., F.C.S., F.I.R.I., 28, Russell Square, London, W.C. 1. The scale of fees is as follows:—

RAW MILK.				£	s.	d.
1.—Methylene Blue Reduction Test	...	...	...	0	2	0
2.—Methylene Blue Reduction Test—Coliform organisms	...	...	...	0	2	0
in three tubes of 1/100 ml.	...	...	...	0	2	6
HEATED MILK.						
3.—Bacteriological plate (colony) count	...	...	...	0	3	6
4.—Bacteriological plate (colony) count—Phosphatase Test	...	...	...	0	5	0
5.—Phosphatase Test	...	...	...	0	3	0

Examinations for Pathogenic Organisms.

By arrangement with the National Institute for Research in Dairying, Shinfield, near Reading, samples to be examined for the pathogenic organisms mentioned below may be sent to Dr. A. T. R. MATTICK (at the above address), who will supply on request the necessary sterile equipment with instructions as to the method of taking and dispatching samples. Members are asked to note that in the examinations for tubercle bacilli the method of animal inoculation will be used. This is the only reliable method, but except in special cases this method necessarily involves a delay of eight weeks before the report can be sent.

A similar delay may be involved when samples have to be examined for the presence of Br. abortus.

Examinations will be at the following fees:—

MILK.	£	s.	d.
Examination for the presence of living tubercle bacilli or Br. abortus	1	1	0
CREAM, BUTTER AND CHEESE.			
Examination for the presence of living tubercle bacilli or Br. abortus	1	10	6

Members' Veterinary Privileges.

Members of the Association who require professional assistance in any case of disease among their animals must apply direct to the Consulting Veterinary Surgeon, Professor G. H. WOOLDRIDGE, Royal Veterinary College, Camden Town, London, N.W. 1, whose scale of charges is as follows:—

	£	s.	d.
Personal Consultation	0	10	6
Post-mortem Examination and Report	1	1	0
Consultation by Letter	0	5	0
Visit and Report, in case of an outbreak of disease, in addition to personal and travelling expenses, per day	3	3	0

Members' Botanical Privileges.

Members may submit seeds and plants for botanical examination, and the following are a few of the special fees:—

No.	£	s.	d.
1.—A Report on the purity of a sample of seed	0	1	0
2.—A Report on the germinating power of a sample of seed ...	0	1	0
Nos. 1 and 2 together	0	1	6
3.—Determination of the species of any weed or other plant, or of any vegetable parasite, with a report on its habits, and the means for its extermination or prevention ...	0	1	0
4.—Determination of the species of a collection of natural grasses found in any district, with a report on their habits and pasture value	0	4	0

Instructions for Selecting and Sending Samples.

At least one ounce of grass and other small seeds should be sent, and two ounces of cereals or larger seeds. Grass seeds should be sent at least four weeks, and clover seeds two weeks before they are to be used. In collecting specimens of plants, the whole plant should be taken up and the earth shaken from the roots. If possible the plant should be in flower or fruit. They should be packed in a light box, or in a firm paper parcel. Specimens of diseased plants or of parasites should be forwarded as fresh as possible, either in a bottle, or packed in tinfoil or oil silk. All specimens should be accompanied with a letter specifying the nature of the information required, and stating any local circumstance (soil, situation, &c) which, in the opinion of the sender, would be likely to throw light on the inquiry.

The proper fee should be sent with the letter concerning the sample to DR. T. J. DRAKELEY, D.Sc., Ph.D., F.I.C., F.C.S., F.I.R.I., 28, Russell Square, London, W.C. 1.

BRITISH DAIRY INSTITUTE.

The British Dairy Institute was established at Aylesbury in 1888 by the British Dairy Farmers' Association. In order that students might have an opportunity of combining practical dairying with scientific instruction, the Institute was removed in 1896 to Valpy Street, Reading, and placed under a committee which now represents the British Dairy Farmers' Association and Reading University. The Institute at present occupies buildings on the University site in London Road, Reading (the side entrance to the Institute is in Redlands Road).

The Institute contains milk-receiving, buttermaking and milk-testing rooms; rooms for the manufacture of pressed, unpressed, and soft cheeses; and ripening rooms for the different varieties of cheese. It is equipped with the best modern apparatus for the manufacture of dairy produce, including power driven separating and buttermaking plant; and cold storage, ice cream and pasteurizing plants.

The Institute is open in each year from the last Friday in January until the end of the autumn term (the middle of December). Courses at the Institute are open to men and women above the age of 16 years, and all students admitted are thereby subject to University regulations. Except for recognised courses, students may join at any time which the Institute is open, and for any period not less than a week.

Practical and theoretical instruction is given in all branches of dairying, and may be advanced, elementary, or specialised, according to requirements. The manufacture of hard-pressed and soft cheeses is taught throughout the time the Institute is open, but Stilton and other blue-veined varieties are not made until May. Instruction is also given in buttermaking, the management of various types of separators, the handling and care of milk, the preparation of starters, &c.

Lectures and demonstrations are usually given in the afternoons, the mornings being devoted to practical work.

The following courses are open to students:—

B.Sc., DAIRYING. Duration of course, three years.

First session of three terms—study for Intermediate Examination.

Two sessions—study for Pass Degree.

During the first year a month must be spent at the British Dairy Institute during the vacation following Summer term, and

an additional month's experience obtained in a dairy factory. After qualification for the Pass Degree, distinction may be obtained by a further year of advanced work on a chosen subject, and by passing the final examination Reading University.

DIPLOMA IN DAIRYING.

Duration of course two years, exclusive of six months' practical farm experience. Fees £35 first year, £41 second year.

NATIONAL DIPLOMA IN DAIRYING (National Diploma Examination Board).

Duration of course two years, exclusive of six months spent on a dairy farm recognised by the Board. The examination is held in September, and can be taken by students who have followed the Reading University Dairying Diploma course.

CERTIFICATE IN DAIRYING.

Duration of course six months (March—September). This course is suitable for students who wish to qualify for the British Dairy Farmers' Association certificates in butter and cheesemaking (the latter requires an additional six months' cheesemaking experience). Fees £21.

Short courses in practical and theoretical dairying are given by arrangement with the British Dairy Institute. Fees, Cheesemaking 25s. per week; Buttermaking 12s. 6d. per week.

The full syllabus of courses, details of residence, regulations, uniform, &c., can be obtained on application to the Secretary, British Dairy Institute, Reading.

British Dairy Farmers' Association

**Sixty-second Half-Yearly Report of the Council
presented to the Members at the Meeting held
at the Dairy Show, Royal Agricultural Hall,
Islington, London, N. 1, on Wednesday, October
20th, 1937.**

In presenting the 62nd Half-yearly Report your Council has great regret in placing on record the lamented deaths of Mr. G. Titus Barham, Mr. S. Palgrave Page and Mr. James Sadler.

Mr. Barham became a member of the Association in 1882, and during the same year was elected to a seat on the Council. In 1915 he was made a Vice-President, and at the 58th Half-yearly meeting of Members was unanimously elected President for 1934. On many occasions Mr. Barham had acted as a judge of cattle at the Dairy Show and for several years served on various Committees.

Mr. Page joined the Association in 1886, became a Councillor in 1891, President in 1913 and was elected a Vice-President the following year. From 1907 to 1921 he held the position of Chairman of the Finance and General Purposes Committee and was also Chairman of the Poultry and Pigeon Committee from 1899 to 1923.

Mr. James Sadler was elected a member in 1906 and joined the Council in 1908. For many years he was a very active member in connection with the Dairy Show at which he acted as Steward of Milkers' Contests and latterly as a Steward of Cheese. He served as Chairman of the Selection of Judges and Stewards Committee and also of several sub-committees.

The kindly advice and untiring efforts of these three most valuable Councillors in the interest of the Association and dairy industry will be sadly missed by the members, particularly those of the Council with whom they laboured for so many years.

DAIRY SHOW.

In submitting a brief outline of the 59th Annual Dairy Show, your Council has again great pleasure in announcing that a most satisfactory entry has been received in all departments. A comparative statement of the entries for the past 12 years accompanies this report, and shows the gains and losses in the various sections. At the Dairy Show this year all trade stands have been removed from the Gilbey Hall, thus providing more accommodation for the cattle and a larger ring for judging. To celebrate the coronation of His Gracious Majesty King George VI the Council has been pleased to increase the prize money in all Stock and Produce sections of the Show and to offer silver spoons for competition in the Poultry and Pigeon classes. Arrangements have been made to pay exhibitors for a proportion of the milk produced during the Show.

A new Challenge Cup, presented by friends of the non-pedigree Dairy Shorthorns, is offered for the best non-pedigree Dairy Shorthorn cow or heifer on inspection.

Two classes have this year been provided for National Mark Stilton and Cheshire Cheese, the prize money being given by the Ministry of Agriculture and Fisheries.

In the class for Bacon Pigs (first cross) Capt. D. M. Wills has kindly presented a Challenge Cup for the best Large White X Large Black exhibit.

Applications received in connection with the non-competitive section are again numerous and all available space has been let. In this connection the "Farmer and Stockbreeder" has kindly presented a Challenge Cup for the best Stand in the Show, together with a gold medal bearing a cast of a replica of the Trophy. Your Council has agreed to give as second and third prizes, respectively, the gold and silver medals of the Association.

GUIDES.

Arrangements have been made for guides to be available on the Tuesday, Wednesday and Thursday of the Dairy Show to assist parties or visitors from other countries to see the Show to the best advantage. Application should be made to the Secretary's office in the Main Hall.

MILK BAR.

The success which attended the Milk Bar provided by the National Milk Publicity Council last year has justified your Council in again approaching that Body to make similar arrangements for the forthcoming Show.

PRESIDENT.

Your Council is most gratified in being able to inform members that Major G. Miller Mundy, whose keen interest in the breeding of pedigree Dairy Shorthorns and dairy farming generally is so well known, has very kindly consented to allow his name to be proposed as President for 1938. Your vote will, therefore, be asked in support of his candidature.

The following list of Vice-Presidents has been prepared and your approval will be sought for their election :—

The Earl of Iveagh, C.B., C.M.G.
 The Earl of Lonsdale, K.G., G.C.V.O.
 The Viscount Bledisloe, P.C., G.C.M.G., K.B.E.
 Major The Lord O'Hagan.
 The Lord Desborough, K.G., G.C.V.O.
 The Lord Daresbury, C.V.O.
 The Lord Rowallan.
 The Lord Eltisley, K.B.E.
 John Evens, Esq., J.P.

COUNCIL.

In accordance with the Articles of Association, the following members of the Council retire this year, and with the exception of Capt. W. Briggs and Mr. E. P. F. Sutton, who, to the regret of the Council, do not seek re-election, have been again duly nominated and seconded :—

Capt. W. Briggs.	F. H. Sanderson.
W. S. Brocklehurst.	R. Shanks.
Mrs. B. Jervoise.	G. M. Strutt.
Capt. R. Oliver-Bellasis.	E. P. F. Sutton.
Mrs. M. Reeves.	E. G. F. Walker.
H. G. Robinson.	S. T. White.

The following candidates have also been proposed and seconded :—

H. Corrie (Farmer), Heath House Farm, Lowfield Heath, Surrey.
 Proposed by W. J. Golding, seconded by T. W. Palmer.

Mrs. M. L. Griffith (Farmer), Little Hallingbury Park, Essex.
 Proposed by S. Woodiwiss, seconded by C. A. Brooks.

A. Weightman (Dairy Farmer), Middle Herrington Dairy Farm, Sunderland, Durham. Proposed by G. B. Radcliffe, seconded by C. W. H. Glossop.

P. H. Worsley (Farmer), Grove Farm, Farmington, Northleach, Gloucestershire. Proposed by S. Edwards, seconded by W. S. Brocklehurst.

MEMBERSHIP.

Although there are numerous additions to the membership of the Association each year, your Council wish to see a further increase. To attain this end all members are asked to make known to friends and neighbours the privileges of membership and to submit their names for election wherever possible.

CONFERENCE.

In view of the success which attended the Conference held in Belgium last year, a full report of which appeared in the Association's Journal, Vol. 49, your Council has agreed to arrange a tour in Finland next June for about fifteen days. A programme is in course of preparation, and will be issued as soon as possible. It is sincerely hoped that a sufficient number of applications will be received to make the project possible.

By order of the Council,

FRED J. BULL,
Secretary.

28, RUSSELL SQUARE,
LONDON, W.C. 1.
October, 1937.

THE FOLLOWING TABLE GIVES COMPARATIVE DETAILS OF THE ENTRIES AT THE DAIRY SHOW WITH THOSE OF THE PAST TWELVE YEARS.

	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935.	1936.	1937.
Cattle	470	449	449	366	356	390	382	344	348	427	421	424	370
Milking and Butter Tests	700	693	737	563	547	628	612	589	581	678	664	711	608
Goats	48	78	68	53	90	80	105	141	120	106	84	70	84
Poultry	4,355	4,352	3,888	3,642	3,432	3,395	3,314	3,037	2,933	3,016	3,103	2,678	2,233
Pigeons	3,094	3,180	3,098	3,083	2,959	2,655	2,616	2,396	2,611	2,471	2,559	2,606	2,538
Cheese	459	489	688	664	519	596	578	462	441	627	633	642	684
Bacon and Hams ...	95	95	105	103	95	120	64	99	76	81	100	107	103
Butter	420	430	488	476	391	413	438	354	297	279	308	257	275
Cream	47	30	43	47	43	64	59	42	37	47	54	51	44
Honey, &c.	53	65	56	88	111	95	85	76	116	152	114	98	85
Bottled Fruits and Vegetables	33	56	80	34	116	87	96	61	119	116	79	96	99
New and Improved Inventions	54	50	57	13	30	20	23	20	25	32	41	28	32
Roots	269	272	242	165	31	12	No class	No class	No class	No class	No class	No class	No Class
Butter-making Contests	130	131	155	124	152	152	143	124	128	146	167	150	135
Milkers' Contests	51	47	61	44	41	70	71	67	68	84	81	75	88
Junket-making Contests	27	28	38	36	31	42	40	40	50	42	45	53	55
Collection of Colonial Produce	2	—	—	—	—	—	No class	No class	No class	No class	No class	No class	No Class
Cow-Judging Contest	8	10	9	7	10	7	4	7	8	15	8	11	13
Collection of Produce	18	9	9	7	33	14	19	9	9	16	11	10	10
	10,333	10,464	10,271	9,515	8,987	8,840	8,649	7,841	7,967	8,335	8,472	8,067	7,456

SIXTY-SECOND ANNUAL REPORT OF THE COUNCIL

for the Year ended 31st December, 1937

**Presented to the General Meeting of Members on
Wednesday, March 2nd, 1938.**

Your Council has much pleasure in submitting its 62nd Annual Report, and in doing so is pleased to record that the Association has well maintained its position and usefulness.

COUNCIL.

The constitution of your Council has undergone three changes during the past year. Mr. P. H. Worsley was elected to fill the vacancy caused by the lamented death of Mr. James Sadler, and of the twelve members who retired in October in accordance with the Articles of Association, Capt. W. Briggs and Mr. E. P. F. Sutton did not seek re-election. Mr. H. Corrie and Mr. A. Weightman were the newly elected Members.

MEMBERSHIP.

The total membership at the close of the year was 1,708, of whom 1,574 were annual, 124 life and 10 honorary members with 12 affiliated and 1 associated Societies. Your Council feels that the Association is worthy of greater support not only from producers, but also from those who have an interest in any other branches of the dairy industry. It is sincerely hoped that present members will use every endeavour to persuade their friends to join the Association, and thus greatly assist the Council to increase its activities in the interest of the industry generally.

THE DAIRY SHOW, 1937.

The 59th Annual Dairy Show held at the Royal Agricultural Hall, London, on October 19th to 22nd, maintained its popularity in all respects. While it is considered unnecessary

to give particulars of the various sections of the Show, in view of detailed reports which will appear in the next Journal, your Council desires to call attention to the exceptionally good entry of cheese. The number of entries received was 684, which was only 4 short of the record entry in 1927.

THE DAIRY SHOW, 1938.

After very careful consideration your Council has decided to hold the 1938 Show at Earls Court from Monday until Thursday, September 26th to 29th. The accommodation at Earl's Court is ample and admirably suited for the staging of a great Show representing adequately all sections of the industry. Your Council will make every effort to maintain and increase the prestige of the Show held annually under its auspices and to merit the continued support of all members. It is realised that this date may, for the first year, prove less suitable for some exhibitors, but it is sincerely hoped that these will appreciate the difficulties which have confronted your Council in its efforts to procure another building which would give greater space for the accommodation of cattle, &c., and allow for the provision of a most comprehensive Dairy Show. The facilities at Earl's Court, including ease of access by road and rail, will enable your Council to stage a Show which will be a credit to all sections of the dairy industry.

Further, your Council has agreed that the cattle section at the 1938 Dairy Show shall be open only to animals from Licensed T.T. or Attested herds or such other cattle which have passed the tuberculin test within two months of the opening day of the Show.

ACCOUNTS.

In accordance with the Articles of Association the Income and Expenditure Account together with a Balance Sheet for 1937, duly certified by the Chartered Accountant, is appended to this report.

EXAMINATIONS.

During the past year examinations have been held at the following five centres:—

Agricultural Institute, Usk, Monmouthshire.
British Dairy Institute, Reading, Berkshire.

Seale-Hayne Agricultural College, Newton Abbot,
Devon.

Somerset Farm Institute, Cannington, Somerset.

Studley College, Studley, Warwickshire.

In all 71 certificates for buttermaking and 50 for cheese-making were awarded.

The 42nd annual examination for the National Diploma in Dairying took place in September at the University and British Dairy Institute, Reading, for students from English and Welsh centres, and at the Dairy School for Scotland, Auchincruive, Ayr, for Scottish students. The record number of 110 candidates were examined at the English centre, of whom 61 were awarded the Diploma, one with Honours, and 56 presented themselves at the Scottish centre, of whom 39 obtained the Diploma, two passing with Honours.

MEDAL SCHEME.

Under the above scheme the following medals were awarded during 1937:—

				Silver.	Bronze.
Dairy Cattle	...	...	...	10	2
Produce	...	...	...	2	4
Buttermaking	...	...	...	4	1
Milkers' Contests	...	...	...	4	3
Cow Judging Contests	...	...	...	1	3
Poultry Judging Contests	...	...	...	1	2
				<hr/> 22	<hr/> 15

WORLD'S 11TH DAIRY CONGRESS, BERLIN, 1937.

Through your Association arrangements were made for the organised representation of British Dairying at this Congress. The British delegates, under the leadership of the Earl of Iveagh, numbered 225 and constituted the second largest foreign delegation. By common consent the Congress was voted one of the best ever held, and all countries paid tribute to the splendid organisation. In collaboration with the Ministry of Agriculture and Fisheries, the Milk Marketing Board and the National Milk Publicity Council, your Association staged a pictorial representation of all sections of British dairying in the International Dairy Exhibition held in connection with the Congress.

The World's 12th Dairy Congress will be held in Vienna in 1940.

THE INTERNATIONAL DAIRY FEDERATION.

The British Dairy Farmers' Association acts as the National Committee for Great Britain, and is represented on all the chief committees of the Federation. The Federation includes some 30 countries and, in addition to its normal duties, arranges the venue of the International Dairy Congresses which are held at intervals of three years.

A delegate from the Association attended the meetings of the Federation which were concerned with international trade in dairy products. During the past year the Federation has adopted as international standards the methods of analysis of dried milks and condensed milks drawn up by the Society of Public Analysts (London), which methods were recommended by your Association. Committees have also been dealing with processed cheese, pasteurisation of milk for cheesemaking and the hygienic production of milk, and the findings of these committees are reported from time to time to your Council.

STANDARDS FOR DAIRY MATERIALS.

The British Standards Institution is preparing specifications for various materials used in the dairying industry, and representatives of the British Dairy Farmers' Association have been and are still members of the various committees entrusted with the preparation of these specifications.

During 1937, the following specifications were approved and published:—

No. 734, 1937. British Standard Specification for Density Hydrometers for use in milk.

No. 736, 1937. British Standard Specification for Centrifuge Tubes and Sedimentation Vessels for the determination of visible dirt in milk.

No. 755, Parts I and II, 1937. British Standard Apparatus and Methods for the determination of the percentage of fat in milk and milk products by the Babcock Method.

A specification dealing with standard methods of sampling dairy products has been prepared and will be published shortly. In addition, committees are studying the question of specifications for rennet, anatto and other colours for dairy products, salt, parchment paper for dairy products, cheese cloth, and metallic foils for wrapping dairy products.

DAIRY CONFERENCE, 1938.

Your Council has arranged a visit to Finland from May 28th until June 11th, and has combined in the programme visits to places of dairying interest with an opportunity to see some of Finland's scenic splendours. It is sincerely hoped that a sufficient number of applications will be received to make the project possible.

By order of the Council,

FRED J. BULL,

Secretary.

28, RUSSELL SQUARE,
LONDON, W.C. 1.

THE BRITISH DAIRY

FINANCIAL

GENERAL INCOME AND EXPENDITURE

Dr,

WITH COMPARATIVE

EXPENDITURE.	1937	1936
	£ s. d.	£ s. d.
Education, Examinations, Medal Scheme, Conference	239 14 7	274 10 7
Journal	545 3 5	507 12 0
Bank Charges, including cost of cheque books ...	15 10 10	28 12 0
Rent	240 0 0	240 0 0
Prizes to Exhibitors and Coronation Awards ...	4,210 14 2	3,883 2 8
Dairy Show—Hire of Hall, Fittings, Postage and Sundry Expenses	6,101 11 0	5,856 14 9
Working Dairy and Milk Buffet	798 1 11	519 17 2
Catalogues	777 15 0	781 14 4
Salaries	1,610 0 0	1,570 0 0
Wages and Labour	1,254 16 6	1,281 19 0
Printing, Stationery, Postage, and Sundry Office Expenses	356 1 4	272 1 7
Railway Fares for attendance at Council Meetings ...	279 8 3	177 5 6
Auditors' Fees, Law Charges, and Officers' Retaining Fees	257 18 6	338 2 2
Depreciation of Furniture and Appliances	196 5 8	175 16 6
Donations—		
Royal Agricultural Benevolent Institution ...	26 5 0	26 5 0
International Dairy Federation	21 0 0	10 10 0
Central Chamber of Agriculture	5 0 0	5 0 0
National Pigeon Association	1 1 0	1 1 0
National Institute for Research in Dairying ...	250 0 0	250 0 0
National Poultry Council	3 3 0	—
Superannuation	124 10 6	124 0 8
General Analyses... ..	16 5 6	19 8 6
World's 11th Dairy Congress, Berlin	362 9 8	—
BALANCE, being excess of Income over Expenditure...	555 11 11	3,954 8 11
	<u>£18,248 7 9</u>	<u>£20,298 2 4</u>

FARMERS' ASSOCIATION.

STATEMENTS.

ACCOUNT for the Year ended December 31st, 1937.

STATEMENT FOR 1936.

Cr.

INCOME.							1937	1936
							£ s. d.	£ s. d.
Subscriptions	...	...	...	...	...	...	1,388 7 10	1,446 6 6
Donations	...	...	...	...	...	...	—	5 0
Examinations	...	...	...	...	...	...	76 14 0	85 10 9
Journal	...	...	...	...	...	...	85 14 0	85 13 4
Contributions to Prize Fund	...	...	...	...	...	...	345 3 6	296 1 0
Entry Fees, Competitive and Non-Competitive	...	...	...	...	...	...	10,515 17 11	11,242 5 3
Profit on Sales of Exhibits, including Commission	...	...	...	...	...	...	19 5 9	63 10 5
Admission Money	...	...	...	...	...	...	3,096 15 1	4,249 15 3
Sales in Working Dairy and Milk Buffet	...	...	...	...	...	...	647 4 10	811 18 4
Catalogues Sales and Advertisements	...	...	...	...	...	...	539 6 9	621 9 10
Interest on Investments	...	...	...	...	...	...	1,509 13 10	1,359 10 2
Interest on Bank Deposit	...	...	...	...	...	...	16 17 3	17 19 6
Hire of Council Room	...	...	...	...	...	...	7 7 0	17 17 0
							<u>£18,248 7 9</u>	<u>£20,298 2 4</u>

Dr.

STATEMENT OF ASSETS AND LIABILITIES, December 31st, 1937.

Cr.

LIABILITIES.		ASSETS.	
	£ s. d.		£ s. d.
Sundry Creditors	173 0 2	Investments at Cost Price—	
World's Dairy Congress, 1928...	8 19 4	£375 Southern Railway 4% Debenture Stock	205 0 0
Sundry Creditors over Liabilities at 31st December, 1936	43 059 12 9	£375 London Midland & Scottish Railway 4% Debenture Stock	280 0 0
Add Excess of Income over Expenditure, 1937	555 11 11	£500 India 3%, 1948	245 0 0
	43,015 4 8	£3,000 War Stock 3½%	2,720 7 0
		£1,500 L.C.C. 3% Stock, 1920	783 17 0
		£400 Hertfordshire 6% Stock	389 1 0
		£4,000 Metropolitan Water Board 3% Stock	3,005 7 0
		£2,000 Commonwealth of Australia 3½% Registered Stock, 1940/49	1,089 19 8
		£2,000 Commonwealth of Australia 3½% Registered Stock, 1934/50...	1,030 4 0
		£5,000 New Zealand 3% Inscribed Stock, 1952/56	9,597 10 6
		£8,500 Consolidated 2½% Stock	4,875 6 0
		£4,000 Local Loans 3%	5,728 2 2
		£3,000 Agricultural Mortgage Cpn., Ltd., 4½% Debenture Stock 1961/91	3,787 18 0
		£2,000 Funding 2½% Loan 1952/57	3,551 10 3
			1,972 14 0
			*41,142 5 7
		Furniture and Appliances:	
		Value at 31st December, 1936, plus additions at cost	766 18 11
		Less Depreciation	196 5 8
			570 13 3
		British Dairy Institute, Reading—Capital Contributions	916 10 0
		Sundry Debtors	239 5 11
		Cash at Bank and in hand	908 9 5
			£43,797 4 2

*The value, according to Market Price, of these Investments at 31st December, 1937, was £45,346.

REPORT OF THE AUDITOR TO THE MEMBERS OF THE BRITISH DAIRY FARMERS' ASSOCIATION.

I have audited the foregoing Statement of Assets and Liabilities and the Income and Expenditure Account with the books and accounts of the Association. I have received all the information and explanations I have required. In my opinion such Statement of Assets and Liabilities is a full and fair statement containing the particulars required by the regulations of the Association, and I have taken up so as to exhibit a true and correct view of the state of the Association's affairs according to the information and explanations I have received and as shown by the Books.

36, WATERLOO,
LONDON, E.C.4.
(Signed) HERBERT J. PAGE,
Chartered Accountant.

12th January, 1938.

The British Dairy Farmers' Association.

Particulars of Medal Distribution Scheme.

THE Council of the British Dairy Farmers' Association is prepared to consider applications from Educational Centres and Approved Societies in the United Kingdom for their Silver and Bronze Medals to be awarded in connection with dairying and dairy farming under the following conditions, viz:—

1. All applications must be made on the official form and must clearly state the object for which the Medal or Medals are required.
2. Only one application from any Institution or Society can be considered in any one year.
3. The application must be repeated annually if medals are again required.
4. A copy of the draft prize list, showing the proposed conditions for the award of the Medal, should accompany the application, and the offer of a Medal cannot be confirmed until the prize list has been approved by the British Dairy Farmers' Association.
5. The British Dairy Farmers' Association stipulates that no entry fee shall be charged in respect of these Medals, which are offered as Special Extra Prizes.
6. Notification of the award, with the winner's full name and address, together with a marked catalogue of the Show, to be forwarded to the Secretary, British Dairy Farmers' Association, 28, Russell Square, London, W.C. 1, within 14 days of the award being made.
7. A person may not receive more than one Medal under this Scheme for the same subject or exhibit during any one year.
8. Medals will not be granted in competitions where cups and/or trophies are also offered.
9. A medal will not be awarded in any class where there are less than six exhibits present.
10. This Scheme came into operation on January 1st, 1934, and takes the place of all previous Schemes.

DAIRY PRODUCE AND BUTTERMAKING.—The B.D.F.A. will consider applications on behalf of County or similar Shows for a Silver Medal as a Championship award.

The B.D.F.A. Bronze Medals may be available for local Shows and in each case shall only be awarded to the best exhibit or competitor.

CATTLE.—The B.D.F.A. Silver Medals will only be awarded at County and similar Shows to cows or heifers which are milk-recorded under the Ministry of Agriculture Scheme.

Such Medals shall only be awarded to animals which have produced not less than the undermentioned minimum milk yields either during a lactation period of 315 days or for any one completed year of a recognised Milk Recording Society:—

Dairy Shorthorns, Lincoln Red Shorthorns, Blue Albions, British Friesians, Red Polls, Ayrshires, South Devons, Guernseys and Jerseys, 8,000 lbs. at 5 years old or over, or 6,000 lbs. at under 5 years.

Devons, Kerries and Welsh Blacks, 7,000 lbs. at 5 years old or over, or 5,500 lbs. at under 5 years.

Dexters, 5,000 lbs. at 5 years old or over, or 3,750 lbs. at under 5 years.

The B.D.F.A. Bronze Medals for cattle will be available only at Local Shows under similar conditions.

The B.D.F.A. Silver Medals will only be awarded to Bulls out of recorded cows whose milk records comply with the yields stated above.

The official Form A.56/TL., obtainable from Milk Recording Societies, giving the milk yield of the animal concerned, must be forwarded with the notification of the award. In the case of a Bull, the record of its dam is required.

DAIRY HERDS.—The B.D.F.A. will consider applications for Silver or Bronze Medals by the authorities organising dairy herd competitions.

Such medals shall only be awarded to herds which are recorded under the Ministry of Agriculture's Milk Recording Scheme.

CLEAN MILK COMPETITIONS.—The Gold Medal of the British Dairy Farmers' Association will be awarded to the leading competitor in each of the advisory provinces as arranged by the Ministry of Agriculture and Fisheries, provided the competition is recognised by the Ministry.

MILKING COMPETITIONS.—The B.D.F.A. will consider applications for Silver or Bronze Medals by the authorities organising County and District Milking Competitions.

Such Medals shall only be awarded where the milking competitions are judged in conformity with the scale of points issued by the Ministry of Agriculture, or as used at the Dairy Show.

OTHER COMPETITIONS.—The B.D.F.A. will consider applications for medals from properly constituted authorities for such other competitions as may be designed to lead to improvements in the practice of Dairy Farming or Dairying.

In the event of any dispute as to the interpretation of these Rules the Council of the British Dairy Farmers' Association reserves full power of decision, and in the event of the Medal not being awarded in accordance with the above Rules and Conditions, the Council reserves the right to withhold the Medal altogether.

MEDALS AWARDED DURING 1937.

Applicant.	Show held at	Date.	Medal.	Winner and Object.
Yeovil Shorthorn Bull Society	Yeovil	Feb. 12	Bronze	S. T. White, for Shorthorn Bull, "Brogynyn Astor," as best Dairy Bull out of a recorded Cow.
Cambridge and Isle of Ely Agricultural Society	Histon	May 29	Silver	W. H. Vigus, for Shorthorn Cow, "Revels Quality Charm," as best recorded Cow or Heifer.
Shropshire and West Midland Agricultural Society	Shrewsbury	May 26 & 27	Silver	Capt. N. M. Harrop, for Shorthorn Cow, "Gwersyllt Kinklevington," as best recorded Cow or Heifer.
Royal Counties Agricultural Society	Reading	June 2-5	Silver	Miss J. M. Olde, Champion Buttermaker.
Suffolk Agricultural Association	Beccles	June 3 & 4	Silver	Miss A. M. Dingle, Champion Buttermaker.
Three Counties Agricultural Society	Hereford	June 8-10	Silver	Mrs. E. G. Griffiths, Champion Buttermaker.
Essex Agricultural Society	Maldon	June 9 & 10	Silver	E. Holton, Champion Milker.
Royal Cornwall Agricultural Association	Wadebridge	June 9 & 10	Silver	Mrs. J. Mogford, for best exhibit of Butter.
Lincolnshire Agricultural Society	Spalding	June 16 & 18	Silver	John Evans & Son, for Lincolnshire Red Shorthorn Cow, "Burton Red Rose 10th," as best recorded Cow or Heifer.
Yorkshire Agricultural Society	York	July 13-15	Silver	Miss M. M. Olde, Champion Buttermaker.
Yeahampton Agricultural Association	Yealmpton	July 14	Bronze	Mrs. C. E. Harvey, for Butter as best exhibit of Butter or Cream.
Royal Welsh Agricultural Society	Monmouth	July 21-23	Silver	Miss M. Harries, Champion Milker.
Bedfordshire Agricultural Society	Amptill	July 22	Silver	W. H. Vigus, for Shorthorn Cow, "Revels Ursula's Lass," as best recorded Cow or Heifer.
"	"	"	Silver	W. H. Vigus for Shorthorn Bull, "Revels Dictator," as best Dairy Bull out of a recorded Cow.
Berkley Hunt Agricultural Society	Berkley	Aug. 2	Bronze	Mrs. L. H. Shield, for best exhibit of Cheese.
Harrogate Agricultural Society	Harrogate	Aug. 3	Bronze	Miss N. Snalley, gaining highest points in Cattle Judging Competition.
Eastington and Frocesier Horse Show Society	Eastington	Aug. 3	Bronze	Miss A. Green, for best exhibit of Butter.
United Counties Agricultural Society	Carnarthen	Aug. 14	Silver	Capt. A. S. Mathias, for Shorthorn Cow, "Langwarren Fairy Queen," as best recorded Cow or Heifer.
Tunbridge Wells and S.E. Counties Agricultural Society	Tunbridge Wells	Aug. 20-21	Silver	John Craig, for British Friesian Cow, "Glyndehourne Lovely 9th," as best recorded Dairy Cow or Heifer.
Penistone Agricultural Society	Penistone	Aug. 26	Bronze	Miss A. M. Ward, for best exhibit of Butter.
Dorchester Agricultural Society	Dorchester	Sept. 2	Silver	14-Col. R. W. Barclay, for Shorthorn Bull, "Buryhill Imperial Bates," as the best Dairy Bull out of a recorded Cow.
"	"	"	Silver	F. N. Terry, for British Friesian Cow, "Chebbard Champion," as best recorded Cow or Heifer.
Devynock Agricultural Society	Sennybridge	Sept. 4	Bronze	Miss M. Davies, Champion Buttermaker.

MEDALS AWARDED DURING 1937—continued

Applicant.	Show held at	Date.	Medal.	Winner and Object.
East Devon Milk Recording Society	East Devon	Oct. 1-1936 to Sept. 30-1937	Silver	Lord Poltmore, for Guernsey Cow, "Rosetta of Sons La Lande," as the recorded cow giving highest amount of Butter-fat.
Devon Cattle Breeders' Society	Exeter	Oct 6	Bronze	A. J. P. Baker, for Devon Bull, "Woodrow Cracksman," as best Dairy Bull out of a recorded Cow.
National Federation of Young Farmers' Clubs	Dairy Show, London	Oct. 21	Silver	Jack Hawkins, First in Cow Judging Contest.
"	"	"	Bronze	Edwin Minty, Second in Cow Judging Contest.
"	"	"	Bronze	Edmund Brooks, Third in Cow Judging Contest.
"	"	Oct. 22	Silver	Alan Hoskins, First in Poultry Judging Contest.
"	"	"	Bronze	Desree Collas, Second in Poultry Judging Contest.
"	"	"	Bronze	Margaret Stevens, Third in Poultry Judging Contest.
Lancashire Cheese and Dairy Show Association	Preston	Oct. 26	Silver	E. Polling, for best exhibit of Cheese.

British Dairy Farmers' Association

PRIZE ESSAY ON A DAIRYING SUBJECT.

The Council offers a Prize of £15 and the B. D. F. A. Silver Medal for an Essay upon any practical or scientific subject relating to Dairy Farming or Dairying, conditionally upon sufficient merit being shown.

Preference will be given to one based on the original work and experience of the writer. Where the work of others is relied upon, full references must be given, either in footnotes or by numbers (1), (2), &c., with a list of authorities at the end.

The Essay should not exceed 5,000 words, and must be received by the undersigned on or before 1st October.

An Essay must be sent in a sealed envelope, bearing a *nom de plume*, and in another sealed small envelope, also bearing the *nom de plume*, the Author must insert his name and address.

The Prize Essay will be the property of the Association. Others will be returned to their respective Authors, but the Association reserves the right to retain Essays on subjects suitable for inclusion in the Annual Journal, which will be paid for at 10s. 6d. per Journal page.

FRED J. BULL,

Secretary,

28, Russell Square, London, W.C. 1.

The British Dairy Farmers' Association

SUGGESTIONS TO FARMERS

AS TO HOW BEST TO ENSURE THE

CLEANLINESS ^{OF} THE MILK SUPPLY

The attainment of a clean milk supply is largely dependent upon the action of Dairy Farmers themselves.

Every Dairy Farmer is financially interested in this question. Public doubt of the cleanliness of the milk supply means reduced demand for fresh milk. Public confidence means increased use of milk as food and drink—consequently a larger demand.

Any Dairy Farmer by want of reasonable care can jeopardise the reputation of the whole industry and thus destroy the good work of those whose efforts are to increase the consumption milk.

The co-operation of every producer is confidently requested.

The main points to be emphasised are:—

- (1) That consumers are entitled to receive milk which is clean and wholesome.
- (2) That the precautions necessary to produce clean, wholesome milk are easy, simple and inexpensive.

Briefly these precautions are:—

- To keep the milk sheds and cows as clean as possible.
- To clean the udders and hindquarters and, before milking, wipe the udders with a clean damp cloth, rinsed after every cow.
- To use a partly covered milking pail.
- To see that milkers milk with clean hands.
- To strain the milk through a strainer fitted with a suitable filtering medium which should be sterilised before each milking.
- To empty water from cooler before washing.
- To rinse utensils in cold water. Thoroughly wash in hot water and soda and scald in boiling water or, preferably, sterilise with steam or by boiling in water.
- To stand utensils upside down to drain after cleaning and NOT to wipe them.

THIS ASSOCIATION APPEALS TO EVERY DAIRY FARMER TO PUT THESE PRECAUTIONS INTO OPERATION, BEING CONVINCED THAT IF PRODUCERS DO NOT TAKE MEANS TO ENSURE A CLEAN, WHOLESOME MILK SUPPLY THE DEMAND FOR FRESH MILK WILL SERIOUSLY DIMINISH.

Correspondence on this subject will receive attention at the Offices of the Association, 28, Russell Square, London, W.C.1.

National Dairy Examination Board

APPOINTED BY

THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND,
THE HIGHLAND AND AGRICULTURAL SOCIETY OF
SCOTLAND,

THE BRITISH DAIRY FARMERS' ASSOCIATION.

Regulations and Syllabus for the National
Diploma in the Science and Practice of Dairying,
1937.

1. The Societies may hold annually in England and in Scotland, under the management of the National Dairy Examination Board appointed by them, one or more examinations for the National Diploma in the Science and Practice of Dairying; the Diploma to be distinguished shortly by the letters "N.D.D."

2. The Examinations will be held on dates and at places from time to time appointed and duly announced.

3. Forms of Entry for the Examination in England may be obtained from "The Secretary, Royal Agricultural Society of England, 16, Bedford Square, London, W.C.1," and must be returned to him duly filled up, with the necessary entry fee (see Regulation 13).

4. Forms of Entry for the Examination in Scotland may be obtained from "The Secretary, Highland and Agricultural Society of Scotland, 8, Eglinton Crescent, Edinburgh," and must be returned to him duly filled up, with the necessary entry fee (see Regulation 13).

5. Any candidate may enter for the Examination either in England or Scotland, but not in both, and a candidate who has once taken part in an Examination in England cannot enter for an Examination in Scotland, or vice versa. *An exception may be made in favour of a candidate re-appearing under Regulation 11 (3) provided special application is made at the time of entry.*

6. As a preliminary to the acceptance of any application for permission to enter for the Examination, a candidate must produce :—

- (1) A certificate testifying that he or she has attended a Diploma Course in the subjects of the Examination covering *two academic years* at an approved Dairy Training Institution and has satisfied the authorities of the Institution of his or her fitness for admission to the Examination. This period shall include six session months' instruction (consisting of not more than two periods) in practical dairy work.
- (2) Evidence that he or she has spent at least six months on an approved Dairy Farm and taken part in the work. This period must not run concurrently with the six months' practical training referred to in sub-section 1.

A Dairy Farm to be approved must have not fewer than fifteen cows kept in daily milking.

7. A candidate who has already taken a Degree in Agriculture of a British University, or a Diploma in Agriculture recognised by the National Dairy Examination Board, will be allowed to enter for the National Diploma in Dairying Examination after one year's training at an approved Dairy Training Institution, providing that such course includes at least six months' training in practical dairy work, and that he or she has worked for at least six months on an approved Dairy Farm.

8. In the Examination a candidate will be required to satisfy the Examiners by means of written papers, practical work, and *viva voce*, that he or she has :—

- (1) A general knowledge of the Management of a Dairy Farm, including the rearing and feeding of Dairy Stock, the candidate being required to satisfy the Examiners that he or she had had a thorough training and practical experience in all the details of Dairy work as pursued on a farm.
- (2) A thorough acquaintance, both practical and scientific, with everything connected with the management of a Dairy, and the manufacture of Butter and Cheese.
- (3) A general knowledge of Dairy Factory Management, Dairy Hygiene, Dairy Engineering and Dairy Book-keeping.

- (4) Practical skill in Dairying, to be tested by the making of Butter and Cheese.

NOTE.—A candidate must be prepared to make any one of the following varieties of Hard Pressed Cheese, the Examiner in Cheesemaking having the option of saying during the Examination what variety a candidate shall make :—

At the English Centre :—Cheddar, Cheshire or Derby.

At the Scottish Centre :—Cheddar, Dunlop or Cheshire.

9. Candidates will have the option of :—

(a) Taking the whole Examination at one time; or

(b) Taking the Examination in two parts.

A candidate taking the Examination in two parts must take the following subjects at the first sitting : DAIRY FARMING, DAIRY HYGIENE, PRINCIPLES OF DAIRYING, DAIRY FACTORY MANAGEMENT AND DAIRY ENGINEERING, PRACTICAL CHEESEMAKING AND BUTTER-MAKING; the remaining three Papers, CHEMISTRY AND PHYSICS, DAIRY BACTERIOLOGY, and DAIRY BOOK-KEEPING, to be taken at the Examination in the following year.

10. The maximum marks obtainable and the marks required for a pass in each subject are as follows :—

WRITTEN EXAMINATION—				Max.	Pass.
Dairy Farming	...	...	...	150	90
Dairy Hygiene	...	...	...	100	60
Dairying—					
(a) Principles of Dairying	...	...	...	150	90
(b) Dairy Factory Management and Dairy Engineering	...	...	...	100	50
Chemistry—					
(a) General Chemistry and Physics	}			100	60
(b) Dairy Chemistry					
Dairy Bacteriology	...	...	...	100	60
Dairy Book-keeping	...	...	...	100	50
PRACTICAL EXAMINATION—					
Hard-pressed Cheese-making	...	...	...	200	150
Blue-veined Cheese-making	...	...	...	100	75
Soft Cheese-making	...	...	...	100	75
Butter-making	...	...	...	200	150
				1,400	910

Honours will be awarded to candidates obtaining an aggregate of 80 per cent. (1,120) of the maximum marks (1,400) in the Examination, provided that they also obtain at least 80 per cent. (400) of the maximum marks (500) in the Dairy Farming, Hygiene and Dairying Papers.

11. A candidate taking the whole Examination at one time—

- (1) who fails in any part of the practical examination shall fail in the whole examination.
- (2) who fails in four or more subjects of the written examination shall fail in the whole examination.
- (3) who having passed in the practical examination, fails in not more than three subjects of the written examination, may, at the discretion of the Board, appear for those subjects in the following year.

The Board may in certain circumstances require evidence of further study in these subjects.

12. A candidate taking the Examination in two parts, and failing in a *single subject* in the first part of the Examination, may, at the discretion of the Board, appear for that subject along with the second part; or, in the case of a *single subject* of the second part, in the following year. The Board may in certain circumstances require evidence of further study in that subject. Failure in more than one subject will be regarded as failure in that part of the Examination. Failure in any part of the Practical Examination will entail complete failure.

13. The entrance fees will be as follows:—	£	s.	d.
For the whole Examination taken at one time	3	3	0
For the Examination taken in two parts:			
First part	...	...	...
Second part	...	...	...
For reappearance, 10s. 6d. each subject.	3	3	0
	1	1	0

14. The Board reserve the right to postpone, to abandon, or in any way or at any time to modify an Examination, and also to decline at any stage to admit any particular candidate to the Examination.

SYLLABUS OF SUBJECTS OF EXAMINATION.

1.—DAIRY FARMING AND DAIRY HYGIENE.

(a) Dairy Farming.

Soils and Crops.—Types of Soils suitable for dairying. Rotations and systems of cropping. Cultivation, manuring and management of grain, root and forage crops used in dairying. Silage. Temporary and permanent pastures, haymaking.

Plant Physiology.—Roots, shoots, flowers, fruit and seeds of agricultural plants.

Dairy Cattle.—Characteristics of different breeds. Relation of conformation and appearance to Milk Yield. Choice of dairy cattle in relation to climate and soil. The milk yields of the more important breeds, and suitability for the milk trade, cream, butter and cheese production.

The management of a Dairy Herd. Cattle breeding and grading up of dairy stock. Calf rearing and management of young stock.

Milk Recording. Systems, and utilisation of results. Details of official schemes.

Foods and Feeding.—Summer and winter feeding of dairy cattle and young stock. Fodder crops and green forage. Roots. Ensilage. Concentrated foods, meals, cakes. Preparation of food. The effect of food on milk and its products.

Pig Keeping.—Characteristics of the more important breeds. The breeding, rearing and fattening of pigs. Production of pork and bacon.

Farm Management.—Systems of dairy farming. The selection, stocking and equipment of typical farms. Organisation of the farm and disposal of produce.

Dairy Economics.—The Dairy Industry of Great Britain and its relationship to Agriculture. The relative importance of the various products. The retail milk trade. Markets, Dairy organisation and co-operation. Modern developments in the Dairy Industry. Sources of imported Dairy Produce.

(b) Dairy Hygiene.

Animal Physiology.—General functions of the organs of the animal body. Breeding. Parturition. The structure of the udder and the process of milk secretion. Changes which food undergoes during digestion.

Veterinary Science.—The more important diseases of dairy cattle and their treatment. The transmission and eradication of diseases.

Milk Hygiene.—Sanitary conditions. Suitability of water supply. Methods of milking and handling of milk. Regulations affecting milk production. Milk in relation to Public Health.

Farm Buildings.—Situation, chief dimensions and construction of cow houses and dairy buildings. Housing for young stock and pigs. Air space and ventilation, drainage and water supply.

2.—DAIRYING.

(a) Principles of Dairying.

Milk.—Milking by hand and machinery. Importance of cleanliness. Cooling of milk. Prevention of contamination. Pasteurisation. Sterilisation. Keeping of milk. Milk testing and sampling. Use of Gerber and Babcock Testers. Interpretation of results. Legal standards. Legislation affecting milk production.

Cream.—Separators and their management. Different systems of cream raising and ripening of cream. Changes during ripening. Natural and artificial ripening, and preparation and uses of starters. Preparation of cream for sale. Uses of preservatives. Clotted cream.

Butter.—Churns and buttermaking appliances. Preparation of cream for churning. Washing and working butter. Butter milk. Packing and transmission of butter. Selection and keeping of butter. Salting. Use of preservatives. Characteristics of good butter and method of judging. Circumstances affecting the flavour, texture, colour and keeping qualities of butter. Potting butter for keeping. Causes of inferior butter.

Cheese.—Principles of manufacture. Appliances for cheese-making. The making of the principal varieties of British, Colonial and Continental cheese from cream, whole milk and skim milk. Acidity of milk. Common tests for acidity. Uses of rennet and its substitutes. Whey. Ripening and storage of cheese. Packing and sale of cheese. Making of cream and other soft cheese. Defects in cheese and their causes. Judging cheese.

(b) Dairy Factory Management and Dairy Engineering.

Factory Practice.—Milk depots and handling of factory milk. Systems of cooling and refrigeration. Pasteurisation. Factory butter and cheesemaking. Milk Powders. Condensed milk. Frozen milk. Ice cream. Dried casein. Fermented milk. Lactose and whey-butter. Margarine manufacture. Equipment of milk depots, butter, cheese and dairy factories.

Factory Management.—Factory routine. Organisation of labour. Handling of milk on arrival at the factory. Methods of dealing with the milk. Milk contracts. Dairy factory legislation.

Dairy Appliances and Machinery.—Appliances used in the production and handling of milk, butter and cheese. Care and management of engines and boilers, dairy factory machinery. refrigerating machinery.

Buildings.—Situation, construction and drainage of creameries, milk depots and dairy factories.

CHEMISTRY.**(a) General Chemistry and Physics.**

Chemistry.—Elements, compounds and mixtures. Chemical symbols, formulæ and equations. Acids, bases, salts: their distinctive properties. Acidity and alkalinity; their quantitative estimation. The Atmosphere: its constituents and impurities; influence on dairying operations. Water: its constitution; pure and natural waters; impurities in water and whence derived. Importance of a good water supply in dairying. General knowledge of elementary chemistry. Oxygen; hydrogen; carbon; nitrogen; phosphorus and sulphur; common metals; common acids; compounds of potassium, sodium, ammonium, calcium.

Elementary organic chemistry; sugar, milk sugar, starch, alcohol, acetic acid, formaldehyde, butyric acid, lactic acid, glycerine, saponification of fats; albumen, casein, pepsin.

Physics.—The different forms of matter; solid, liquid, gaseous. Specific gravity and instruments for determining it. Temperature and methods of measuring it. Expansion; thermometric scales. Influence of temperature in dairy operations. Atmospheric pressure and its measurement. Hygrometry. Heat and its measurement; specific heat. Latent heat. Conduction. Convection. Radiation. Solution. Filtration. Distillation. Simple machines, such as levers, pulleys and light weighing machine.

(b) Dairy Chemistry.

Chemistry of Milk.—The nature, composition, properties and chemical constituents in milk. Microscopical appearances presented by milk. The influence of feeding. The changes which occur in the keeping of milk, and how produced. The natural and artificial souring of milk. Rennet, its nature and uses.

Milk Products.—Physical and chemical changes involved in the making and keeping of butter and in the manufacture and ripening of cheese. Separated milk. Condensed milk. Fermented milk. Synthetic milk. The use of preservatives.

Dairy Analysis.—Analytical methods, their theory and practice. A general knowledge of the methods employed in the chemical analysis of milk, butter and cheese. Adulteration of milk, cream, butter and cheese, the ways in which adulteration is practised, the changes in composition thereby produced and general knowledge of the methods employed in detecting the same.

Chemistry of Feeding.—The principal constituents of food material and the functions they severally fulfil. The influence of food constituents on milk production. Assimilation and digestion. The manurial value of foods. Milk and milk products as foods.

N.B.—Candidates are required to bring to the Oral Examination their Laboratory notebooks in sections (a) and (b) of this subject certified by their teachers as being the record of their laboratory work carried out during the course.

4.—DAIRY BACTERIOLOGY.

General Bacteriology.—Bacteria; their form, classification, growth and reproduction. The microscope and its use. Staining and microscopic examination of bacteria. Methods of isolation and cultivation. Preparation of culture media. Fermentations and chemical changes produced by bacteria. Enzymes and their action. Effects of heat, cold, sterilisation, pasteurisation, disinfectants and preservatives on bacteria and enzymes. Bacteriological examination of water supplies.

Bacteriology of Milk.—The changes produced by bacteria in milk. Useful forms and their functions. Harmful forms and their effects. Coagulation, discolouration, taints, &c. Bacteriological and other standards in relation to the cleanliness of milk.

Milk Products.—The bacteria concerned in the ripening of cream and butter making. "Starters," their preparation and management. The ripening of hard, soft and blue-veined cheese. Bacteria injurious to milk products, including condensed and dried milk.

Dairy Mycology.—Moulds and yeasts in dairy practice. Their form, classification, growth and relation to dairy products.

N.B.—Candidates are required to bring to the Oral Examination on this subject their Laboratory notebooks certified by their teachers as being the record of their laboratory work carried out during the course.

5.—DAIRY BOOK-KEEPING.

Reasons for keeping accounts on the farm and in the dairy factory.

General principles of double-entry book-keeping. Use of day-book, journal, ledger, cash-book, analysis cash-book, and petty cash book. Preparation of profit and loss account, capital account and balance sheet. Adjustments necessary for the owner-occupier.

Valuations. Basis of valuations for accounting purposes on the farm and in the dairy factory. Dates for stock-taking.

Methods of accounting suitable for dairy farms and factories. Forms for milk-retailing, cheese-making, and butter-making.

Preparation of a cost account for milk production.

Interpretation and use of accounting results, with special reference to their practical application.

Opening a Bank account. Cheques, deposits and over-drafts.

Assessment of the Farmer for Income Tax purposes.

6.—PRACTICAL SKILL IN DAIRY WORK.

Candidates must be prepared—(1) to produce before the Examination a satisfactory certificate of proficiency in the milking of cows, signed by a practical Dairy Farmer, and to satisfy the Examiners by a practical test, if so required; (2) to churn and make into Butter a measured quantity of Cream; and (3) to make one Cheese of each of the following varieties:—(1) Hard-pressed of not less than 30 lb. (See Note to Reg. 8 (4).) (2) Veined or blue-moulded of not less than 10 lb., and (3) also to make one or other of the following Soft Cheeses: Cambridge, Camembert, Coulommier, or Pont l'Évêque.

The British Dairy Farmers' Association.

CERTIFICATE IN DAIRY FACTORY MANAGEMENT.

Candidates for the Certificate in Dairy Factory Management must fulfil the following conditions :—

1. They must possess an approved Diploma in Dairying.
2. They must have had six months' practical instruction at an approved dairy factory, or at an approved dairy factory school.
3. They must obtain 60 per cent. of the possible marks in the examination for the Certificate in Dairy Factory Management.

Examination for the

CERTIFICATE IN DAIRY FACTORY MANAGEMENT.

1. Two papers will be set on the subjects outlined in the following syllabus.
2. Candidates will be examined orally in Factory Management with reference to the type of factory in which their practical training has been obtained.
3. Candidates must submit to the Examiners full notes of the work which has been carried out in the factories in which their practical experience has been obtained.

SYLLABUS OF EXAMINATION.

This Syllabus should not be viewed from a purely engineering standpoint, but students will be expected to have a general knowledge of the management of factory machinery :—

Paper 1.—Planning, Equipment and Management of a Dairy Factory.

Dairy Factories.—Site, building materials, construction, laying of floors, lighting, ventilation, drainage, sanitation, disposal and treatment of sewage and factory waste. Space requirements for the common types and sizes of factories.

Water Supply.—Water requirements; sources of supply. Examination for quality and purity. Methods of purification. Suitability of water supplies for dairy purposes. Sites for wells. Construction of wells. Artesian wells. Pumps for deep and shallow wells. Air-lift pumps.

Factory Equipment.—Artificial lighting and sources of power in the factory. Equipment required for various types of factories and approximate cost of same. The disposition and control of factory machinery.

Steam Plant.—Types of vertical and horizontal boilers and their relative advantages and disadvantages. Sizes of boilers required in dairy factories. Evaporating power of boilers. Setting and insulation. Cleaning out of boilers. Economical firing. Fuel used, *e.g.*, coal, coke and wood. Cost and calorific value. Fuel consumption and cost of steam production. Allocation of steam supply to different purposes in the factory. Boiler smoke stacks and their construction. Boiler fittings, including donkey pumps and water injectors. Feed heaters. Methods of economising steam supply.

Factory Machinery.—Steam, gas and oil engines. Electric motors, turbines, water power, comparison of the various types and their relative efficiency. Construction and working of the various types. Cost of maintenance. Power requirements of the factory and the most suitable combinations of power when different sources of energy are available. The management and fitting up of machinery, including electric fittings. Adjustment of bearings. Packing of glands. Fixing of brackets, &c. Lubrication of machinery. Oil containers and filters. Lubricants. Lubrication of high-speed machinery. Oils and grease for shafting. Arrangement for machinery and methods of transmitting power. Belts, types and uses. Repairs to belting. Pulleys and gearing. Methods of increasing and reducing speed. Labour-saving devices. Tools required for a dairy factory.

Factory Plants.—Construction and operation of milk apparatus, including clarifiers, pasteurisers, separators, milk pumps, refrigerators, &c. Refrigerating machinery, CO₂ and ammonia. Methods of operation and management. Cold storage and brine cooling. Efficiency in the transfer of heat in heating and cooling apparatus. Methods of carrying out efficiency tests under different conditions and outputs. Factory appliances, including cheese vats, holding vats, power churns, bottling machinery and other factory equipment. Their approximate cost and suitability of the various types. Methods of cleaning equipment, utensils and milk churns.

Factory Management.—Organisation of labour. Business management. Book-keeping. Cost accounts. Profit and loss in manufacturing. Stock-taking and depreciation. Railway rates and conditions. Road transport. Systems and comparative costs. Advertising. Markets and sale of produce. Co-operative organisation.

Factory Law.—Law as far as it affects the factory, the management and the produce. Factory and Workshops Act. Workmen's Compensation. Health Insurance. Employer's Liability and Trade Boards Acts. Industrial and Provident Societies Act. Rivers Pollution Act. Sale of Foods and Drugs Act. Milk and Dairies Acts, and other legislation as it affects the working of factories and the manufacture and sale of dairy produce.

Paper 2.—Handling and Utilization of Milk and Milk Products.

Handling of Milk.—Purchase, collection and distribution of milk. Management of milk on arrival at the factory. Weighing, sampling, testing, recording and cleaning. Methods of paying for milk and cream.

Utilization of Milk.—Methods of dealing with milk for sale for cream production, buttermaking, cheesemaking, and for the manufacture of other products.

Factory Products.—Preparation of cream for market. The manufacture and treatment of butter and cheese. Manufacture of condensed and powdered milk, casein and milk sugar, &c. Ice cream manufacture, &c. The utilization of by-products.

Pig-Keeping.—Feeding and management of pigs. The production of pork and bacon. Bacon curing.

The Entry Fee for each Candidate is £4 4s.

Any further particulars and Entry Forms for this Examination may be obtained from—

THE SECRETARY,

BRITISH DAIRY FARMERS' ASSOCIATION,

28, Russell Square, London, W.C. 1.

Examination for **CHEESEMAKING CERTIFICATE.**

The Association grants to any Candidate who satisfactorily passes the necessary Examination—

A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking.

The Examination, which will extend over two or more days, will test the Theoretical Knowledge of the Candidates and their Practical Skill in Cheesemaking. Each Competitor will be required to answer, in writing, a set of questions within a given time, and will also be examined *viva voce*. On the same or following day a Practical Examination in Cheesemaking will take place.

Candidates will be considered to have passed the Examination if they obtain not less than 60 per cent. of the marks on each and every written paper and not less than 66 per cent. in the Practical Test.

Candidates for this Certificate must, at the time of entry, produce satisfactory evidence that they have received at least twelve months' instruction in the Theory and Practice of milk production and Cheesemaking, of which at least six months must have been spent at a recognised centre for dairy instruction. They must possess a sound knowledge of the subjects included in the following Syllabus.

Candidates will be required to make one Hard-pressed Cheese, either Cheddar, Cheshire or Derby, to be selected by the Examiner, and one Blue-veined Cheese, either Stilton or Wensleydale, to be selected by the Candidate. They must also have a knowledge of the manufacture of other varieties of Hard-pressed Cheese and of Soft Cheese.

Candidates are at liberty to bring their own utensils for the Practical Examination if they wish to do so.

The Examination for Cheesemaking Certificates is held at the British Dairy Institute, Reading, in the Autumn of each year, upon dates announced in the Agricultural and Dairy Press.

Entries will close 28 days prior to the date fixed for the Examination.

The Entry Fee is 10s.

SYLLABUS.

1. *Milk*.—The Food Value of Milk; The Yield of Milk from various Breeds; Secretion of Milk and Structure of the Udder; Milking by Hand and Machine; Handling of Milk from Cow to Dairy; Importance of Cleanliness; Production of Highest Grade Milk; Cooling of Milk; Sale of Milk; Influence of Food on the Yield, Flavour and Fat Contents of Milk; Composition of Milk, Nature and Properties of its Constituents; Differences between Morning and Evening Milk and their Causes; Methods of Sampling and Simple Methods of Testing Milk, as the Lactometer, Creamometer, and Centrifugal Fat Testers; Testing for Acidity; Causes of Fermentation; Colostrum, its Nature and Properties; the Keeping of Dairy Records; the Handling of Evening's Milk for Cheesemaking; Properties of Milk suitable for Cheesemaking; Taints in Milk, their Causes, Effects and Remedies; Tests for such Taints; the Ripening of Milk for Cheesemaking; Methods and Reasons for Ripening; use of Natural and "Culture" Starters; Pasteurisation of Milk; Chilled Milk; their subsequent use for Cheesemaking; Special Testing of Milk, Whey, and Curd requisite in a Cheese Dairy; Utilization of Dairy By-Products.
2. *Cheese*.—Rennet: its Preparation, Properties, and Action upon Milk; Testing its Strength; Storage of Rennet; Substitutes for Rennet; Anatto; a General Knowledge of the Manufacture of the Principal Varieties of Hard-pressed, Blue-veined and Soft Cheeses, including the use of wood and metal tubs and jacketed vats; Methods of Scalding; the Development and Control of Acidity in Curd; Salting and Brining in Cheesemaking; Bandaging; Ripening and Storing of Hard-pressed, Blue-veined and Soft Cheeses; Defects in Cheese and their Causes; Composition of Cheese; Composition and Utilization of Whey; the Manufacture of Whey Butter; the Equipment of a Cheese Dairy and its Cost; the care of Utensils; the Detailed Principles and Practice requisite for the Manufacture of one of the following types of Cheese:—
 - (a) A Hard-pressed British Cheese (not less than 25 lbs. weight).
 - (b) A Blue-veined British Cheese (not less than 10 lbs. weight).

Any further particulars and Entry Forms for this Examination may be obtained from—

THE SECRETARY,

BRITISH DAIRY FARMERS' ASSOCIATION,
28, Russell Square, London, W.C. 1.

Examination for
BUTTERMAKING CERTIFICATE.

The Association grants to any Candidate who satisfactorily passes the necessary Examination—

A Certificate of Merit for Proficiency in the Theory and Practice of Buttermaking.

The Examination, which will extend over two or more days, will test the Theoretical Knowledge of the Candidates and their Practical Skill in Buttermaking. Each Competitor will be required to answer, in writing, a set of questions within a given time, and will also be examined *viva voce*. On the same or following day a Practical Examination in Buttermaking will take place.

Candidates will be considered to have passed the Examination if they obtain not less than 60 per cent. on each and every written paper, and not less than 66 per cent. in the Practical Test.

Candidates for this Certificate must, at the time of entry, produce satisfactory evidence that they have received at least three months' instruction (not necessarily at a Dairy School) in the theory and practice of Milk and Cream production and management, and Buttermaking. They must possess a sound knowledge of the subjects included in the following syllabus.

Candidates are at liberty to bring their own utensils for the Practical Examination if they wish to do so.

The Examination for Buttermaking Certificates is held at the British Dairy Institute, Reading, in the Autumn of each year, upon dates announced in the *Agricultural and Dairy Press*.

Entries will close 28 days prior to the date fixed for the Examination.

The Entry Fee is 5s.

SYLLABUS.

1. *Milk*.—The Food Value of Milk; the Yield of Milk from various Breeds; Secretion of Milk and Structure of the Udder; Milking by Hand and Machine; Handling of Milk from Cow to Dairy; Importance of Cleanliness; Production of Highest Grade Milk; Cooling of Milk; Sale of Milk; Influence of Foods on the Yield, Flavour and Fat Contents of Milk; Composition of Milk, Nature and Properties of its constituents; Differences between Morning and Evening Milk and their causes; Methods of Sampling and Simple Methods of Testing Milk, as the Lactometer, Creamometer, and Centrifugal Fat Testers; Testing for Acidity; Causes of Fermentation; Colostrum, its Nature and Properties; the Keeping of Dairy Records.
2. *Cream*.—The Various Methods of Obtaining Cream; the Construction and Use of the Utensils employed; Separators, the Construction and Use of the various Types; Composition of Cream, Separated Milk, Skimmed Milk, and Buttermilk, with Simple Tests for Fat in same; the Ripening of Cream—Objects and Results; Changes during Ripening; Testing for Acidity; Natural and Artificial Ripening and Preparation of Starters; the Preparation of Cream for Churning; Preparation of Cream for Sale; Clotted Cream.
3. *Butter*.—The Various Methods of obtaining Butter, including the Churning of Whole Milk; Utensils required, and the Preparation, Use, and Care of same; the Process of Butter Manufacture in all its details; Conditions which affect the Butter Yield; Circumstances affecting the Flavour, Texture, Colour, and Keeping Properties of Butter; Dry-salting and Curing of Butter; Faults in Butter and their Causes; Composition and Properties of Good Butter; Composition and Causes of Inferior Butter; Methods of Judging Butter.

Any further particulars and Entry Forms for this Examination may be obtained from—

THE SECRETARY,

BRITISH DAIRY FARMERS' ASSOCIATION,

28, Russell Square, London, W.C. 1.

EXAMINATIONS
AT
LOCAL CENTRES.

In order to meet the convenience of Students at Dairy Schools, members of local Societies, and other persons, the Association will conduct Examinations for its Certificates at any place in the United Kingdom upon receiving satisfactory proof that the following conditions will be observed :—

That the School, Society, County Council, or other body requesting such Examination to be held undertake :—

- (1) To supply all necessary appliances and materials.
 - (2) To pay the fees and expenses of the Examiners.
 - (3) To supply the milk required free from preservatives and fit for Cheesemaking.
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Copies of Question Papers set at recent Examinations may be obtained at 3d. per copy.

Applicants are requested to state whether Cheese or Butter questions are required.

Further particulars and Entry Forms for Students may be obtained from—

THE SECRETARY,

BRITISH DAIRY FARMERS' ASSOCIATION,

28, Russell Square, London, W.C. 1.

National Dairy Examination Board.

Appointed by the Royal Agricultural Society of England, the Highland and Agricultural Society of Scotland, and the British Dairy Farmers' Association.

Report on the Results of the Forty-second Examination for the National Diploma in Dairying, 1937.

1. The ninth Examination under the auspices of the present Board—and the Forty-second Annual Examination for the National Diploma in Dairying—was, by the courtesy of the Authorities, held during September at the University and British Dairy Institute, Reading, for English and Welsh students, and at the Dairy School for Scotland, Auchinervie, Ayr, for Scottish students.

2. As a preliminary to the acceptance of an application for permission to enter for the Examination, a candidate was required to produce:—(1) A certificate testifying that he or she had attended a Diploma Course in the subjects of the Examination covering *two academic years* at an approved Dairy Training Institution; (2) Evidence that he or she had spent at least six months on an approved Dairy Farm and taken part in the work.

3. A candidate who had already taken a Degree in Agriculture of a British University, or a Diploma in Agriculture recognised by the Board, could enter for the Examination after one year's training at an approved Dairy Training Institution, providing that such course included at least six months' training in practical dairy work, and that he or she had worked for at least six months on an approved Dairy Farm.

4. The written Examination included papers on Dairy Farming, Dairy Hygiene, Principles of Dairying, Dairy Factory Management and Dairy Engineering, Chemistry and Physics, Dairy Bacteriology, and Dairy Book-keeping. The Practical Examination comprised Hard-pressed, Blue-veined and Soft Cheese-making and Butter-making.

5. A candidate had the option of taking the whole examination at one time, or of taking only Part I, which omits Chemistry, Bacteriology and Book-keeping. These last three subjects—constituting Part II—have to be taken at the examination of the year following that at which Part I was passed.

6. A candidate taking the whole examination, who, having passed in the practical examination, failed in not more than *three* subjects of the written examination, might, at the discretion of the Board, appear for those subjects in the following year. A candidate who failed in four or more subjects of the written examination, or in any part of the practical examination, failed in the whole examination.

7. A candidate taking the examination in two parts, and failing in a *single subject* in Part I, might, at the discretion of the Board, appear for that subject along with Part II; or, in the case of a *single subject* of Part II, in the following year. Failure in more than one subject was regarded as failure in that part of the Examination. Failure in any part of the practical examination entailed complete failure.

8. At both Centres the same Questions were answered by the candidates from September 8th to 10th. The Practical Examination as well as the *viva voce* was conducted at the English Centre from September 13th to 18th, and at the Scottish Centre from September 20th to 25th.

9. At the English Examination 110 candidates presented themselves. Of these, one entered for Part II, one who was prevented by illness from completing the examination in Scotland in 1936 was allowed to appear at Reading for the remaining subject, 25 appeared for re-examination in subjects in which they had previously failed, 78 took the whole examination, and five entered Part I only. Sixty-one candidates were awarded the Diploma, one with Honours. The names, in alphabetical order, of those who were successful are as follows :—

ENGLISH CENTRE.

Diploma with Honours.

Kenneth N. Russell, The University and British Dairy Institute, Reading.

Diploma.

Zoë S. Anning, William P. J. Arthur, Barbara Baddiley, Rondesley W. Baker, Oliver Baraclough, Marian E. Barnham, Margaret Barrett, Maurice A. Barrett, Barbara Barton, John C. M. Bearder, Barbara F. Brodie, Helen T. Brown, Olive Bury, Helen R. Chapman, Joan C. Cockburn, Dorothy L. G. Connert, Sarah L. Corner, Jane E. Davies, May Davies, Anthony J. M. Davison, Gordon S. Douglas-Jones, David S. Downey, Dorothy F. Dryden, Henry O. Evans, Phyllis L. Ferguson-Walker, Isobel M. Gardiner, Eluned Griffith, Norman W. Griffiths, Margaret E. Halliwell, Frank E. Harnett, Kenneth J. Harris, Dorothy O. Harrison, Leslie H. Heap, Megan G. Hughes, Dorothy M. Irvine, Dorothy B. Johnson, Betty M. Jones, Rebecca H. Jones, Kenneth W. Kemp, Ivor E. Ketteringham, Margaret M. Lewis, Marjory Lewis, Herbert E. Littlewood, Megan O. Lloyd, Millicent M. Loveys, John C. Matthews, Leslie W. Osborne, John Pearce, Patricia M. Polding, Hannah M. Powell, Kenneth J. Rampling, Kenneth L. Richards, Catherine Roberts, Florence E. Stanley, Doris M. Stoodley, Frances E. Wade, Tom M. Wakerley, Percy Walker, Annie M. M. Williams, Alice J. Yates.

Thirty-three candidates failed in not more than three subjects, for which they will be allowed to reappear next year.

10. At the Scottish Centre, 56 candidates presented themselves—40 took the whole examination, and 16 appeared for re-examination in subjects in which they had previously failed. Thirty-nine candidates gained the Diploma, two with Honours. Their names are as follows :—

SCOTTISH CENTRE.

Diploma with Honours.

Edward Dawson, Whitestake Farm, New Longton, Lancs.
George Ord, Field House, Lesbury, Northumberland.

Diploma.

Sarah M. A. Armstrong, John A. Birch, Jean C. Blane, Florence S. Broadfoot, John R. Clapham, John Gardner, Walter J. F. Gardner, Robert Garside, Mary Gibson, Jane E. E. Girdwood, John W. Grant, Margaret A. Gray, Elizabeth F. Hudson, William Johnstone, Ena A. Jones, Robert G. Laing, James Lorimer, Isabella S. MacCallum, Alastair Macdonald, Margaret J. Macdonald, Mary M. W. MacGillivray, Dorothy M. G. Macintyre, Lachlan MacKinnon, Mary MacKinnon, Mona M. McLean, Anthony I. McMillan, Roberta M. R. Mair, Edith Milne, Phyllis M. Pyper, Catherine Rose, Catharine T. Steele, Isabel S. Stewart, Margaret L. Stewart, James S. Symington, Akbar Ali Tur, John C. Warnock, Richard H. Wharton.

Fifteen candidates failed in not more than three subjects, for which they will be permitted to reappear in 1938.

All the candidates at the Scottish Centre had been students at the Dairy School for Scotland, Auchincruive, Ayr.

11. The Examiners at both Centres were: David Wyllie, N.D.A., N.D.D., C.D.A., C.D.D. (Glas.) (*Dairy Farming, Dairy Hygiene and Practical Butter-making*); J. Lyons, M.Sc., A.R.C.Sc.I., N.D.A., N.D.D. (*Principles of Dairying, Dairy Factory Management and Dairy Engineering, and Practical Cheese-making*); Dr. S. Allinson Woodhead, F.I.C. (*Chemistry and Physics*); Andrew Cunningham, D.Sc. (*Dairy Bacteriology*); D. Witney, B.Com. (*Dairy Book-keeping*).

Results of Examinations held by the British Dairy Farmers' Association during 1937.

EXAMINATION FOR BUTTERMAKING AND CHEESEMAKING CERTIFICATES AT SOMERSET FARM INSTITUTE, CANNINGTON; ON FRIDAY, SATURDAY, MONDAY AND TUESDAY, MARCH 19TH, 20TH, 22ND AND 23RD.

- A Certificate of Merit for Proficiency in the Theory and Practice of Buttermaking awarded to Hilda M. Creed, Patricia Goacher, Nettie D. Hembry, Betty M. Hutchings, Kathleen M. I. Hutchings, Marjorie P. Sandford, Alice Vigar and Edith Withers.
- A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking awarded to Hilda M. Creed, Patricia Goacher, John J. Haggett, Richard R. Hillier, Betty M. Hutchings, Kathleen M. I. Hutchings, Marjorie P. Sandford, Alice Vigar, Betty J. Way and Edith Withers.

EXAMINATION FOR BUTTERMAKING AND CHEESEMAKING CERTIFICATES AT THE SEALE-HAYNE AGRICULTURAL COLLEGE, NEWTON ABBOT; ON MONDAY, TUESDAY AND WEDNESDAY, JULY 12TH, 13TH AND 14TH.

- A Certificate of Merit for Proficiency in the Theory and Practice of Buttermaking awarded to Joyce M. Bailey, Dorothy Berryman, Ronald O. Boon, George D. Collins, Ruth E. A. Cuming, Elizabeth M. Hern, Margaret N. Hurst, Cecil J. Liverton, Edward J. Lovell, Millicent M. Loveys, Donald I. Oliver, Brindaban Chandra Singh, Evelyn R. P. Walsh and Barbara E. M. Wilcocks.
- A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking awarded to Dorothy Berryman, Ruth E. A. Cuming, Margaret N. Hurst, Cecil J. Liverton, Millicent M. Loveys and Evelyn R. P. Walsh.

EXAMINATION FOR BUTTERMAKING AND CHEESEMAKING CERTIFICATES AT THE STUDLEY COLLEGE, WARWICKSHIRE; ON FRIDAY, SATURDAY, MONDAY AND TUESDAY, JULY 23RD, 24TH, 26TH AND 27TH.

- A Certificate of Merit for Proficiency in the Theory and Practice of Buttermaking awarded to Ruth R. Davies, Fierna M. Droop, Catherine B. Haine, Betty Heald, Marian E. Pollock, Veronica M. Renton, Rosemary E. Rix and Jean F. Smithson.
- A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking awarded to Barbara Barton, Elizabeth H. Barton, Nancy M. Frew, Irene J. B. Harding, Eileen P. Horner, Marion Kitchin, Elizabeth V. Lyon and Joan R. Skinner.

EXAMINATION FOR BUTTERMAKING AND CHEESEMAKING
CERTIFICATES AT THE AGRICULTURAL INSTITUTION, USK,
MONMOUTHSHIRE; ON MONDAY, TUESDAY AND WEDNES-
DAY, AUGUST 9TH, 10TH AND 11TH.

- A Certificate of Merit for Proficiency in the Theory and Practice of Buttermaking awarded to Francis J. Bevan, Arthur C. Candy, Robert C. Cooper, Margaret G. Goodwin, Elizabeth I. Hatherell, William H. James, Eva Jones, Richard C. Mathews, David L. Oliver, Clive Roberts, Betty Shield, Elizabeth M. F. Taylor, Marguerite Willcox, Chester B. Williams, Elizabeth Wood and Dorothy B. Young.
- A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking awarded to Arthur C. Candy, Margaret G. Goodwin, Eva Jones, Elizabeth M. F. Taylor and Elizabeth Wood.

EXAMINATION FOR BUTTERMAKING AND CHEESEMAKING
CERTIFICATES AT THE BRITISH DAIRY INSTITUTE, READ-
ING; ON TUESDAY, WEDNESDAY, THURSDAY AND FRIDAY
AUGUST 31ST, SEPTEMBER 1ST, 2ND AND 3RD.

- A Certificate of Merit for Proficiency in the Theory and Practice of Buttermaking awarded to Margaret Barratt, Roger Beaumont, Sarah L. Corner, Anthony J. M. Davison, Alfred F. Dent, Robin M. Dodington, Gordan S. Douglas-Jones, Eugene Falzon, Keshab Chandra Sen Gupta, Sheila M. Hamilton, Frank E. Harnett, Kenneth J. Harris, Evelyn J. Hay, Jean E. Hayes, Megan O. Lloyd, Bedford H. N. McNeill, Leslie W. Osborne, John Pearce, Catherine Roberts, Kenneth N. Russell, Norman C. Scriven, Florence E. Stanley, Kenneth F. Strong, Frank R. Walley and Ahmed Zaki.
- A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking awarded to Margaret Barratt, Roger Beaumont, Sarah L. Corner, Anthony J. M. Davison, Alfred F. Dent, Sheila M. Hamilton, Frank E. Harnett, Kenneth J. Harris, Jean E. Hayes, Margaret M. Lewis, Megan O. Lloyd, Bedford H. N. McNeill, Leslie W. Osborne, John Pearce, Catherine Roberts, Kenneth N. Russell, Norman C. Scriven, Florence E. Stanley, Kenneth F. Strong, Norma Watt and Ahmed Zaki.
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National Dairy Examination Board.

Papers set for the National Diploma in Dairying,
September, 1937.

DAIRY FARMING.

(Time allowed, three hours.)

ALL QUESTIONS TO BE ATTEMPTED.

1. Enumerate the various forms in which lime is applied to soils.

Briefly state which of the above—stating quantities per acre and method of application—you consider most suitable for :—

- (1) heavy clay soils,
- (2) light sandy soils,
- (3) soils containing a high proportion of humus.

2. Describe any **one** method of preserving grassland produce for winter keep, pointing out the advantages and disadvantages of the method you select.

3. Supply the following information in the case of Dairy Shorthorn, Ayrshire, Jersey, Friesian and Red Poll Cattle :—

- (1) Average live weight,
- (2) Average annual yield of milk,
- (3) Average fat percentage of the milk yielded.

4. Mention the chief characteristics of a bacon pig.

In the case of a Large White, state :—

- (1) The age at which castration takes place,
- (2) The weaning age,
- (3) The age at which the fattening period commences,
- (4) The age at which the animal is slaughtered,
- (5) The percentage of carcase to live weight.

5. Describe the method you would adopt in rearing calves on a milk-selling farm until they are three months old.

6. Draw out a list of plants and other foods which seem to have a deleterious effect on milk and its products.

7. Describe the steps you would adopt in preserving the manurial constituents of farm-yard manure.

8. State the approximate analysis of the following :—

- (1) Meadow hay,
- (2) Palm nut cake,
- (3) Dried grass,
- (4) Green grass,
- (5) Bran.

DAIRY HYGIENE.

(Time allowed, two hours.)

ALL QUESTIONS TO BE ATTEMPTED.

1. Describe how the character of the buildings in which cows are housed affect their health.

2. Compare and contrast milking by machine and milking by hand, from a sanitary point-of-view.

3. Describe the steps you would adopt in disinfecting a building after contagious disease.

4. What diseases are transmissible to human beings either by the animal itself, or through the medium of its milk?

5. Describe the construction of a pig-sty specially intended for farrowing purposes.

6. Enumerate :—

- (1) The indications of health,
- (2) The indications of disease in cattle.

PRINCIPLES OF DAIRYING.

(Time allowed, three hours.)

ATTEMPT ONLY SEVEN QUESTIONS.

1. What is the origin and character of the natural colouring matter found in butter, and what causes the amount present to fluctuate?

How may butter be artificially coloured? From what source is suitable colouring matter obtained and how is it prepared for use?

2. Describe how you would take a representative sample of milk from a number of containers of unequal size and how would you accurately determine its butterfat content by the Babcock method?

3. What legislation is in force in Great Britain affecting:—

- (a) The use of preservatives in cream and butter?
- (b) The sale of artificial cream?
- (c) The sale of condensed skimmed milk?
- (d) The sale of margarine?

4. Describe the principle on which the centrifugal cream separator operates (using sketches where necessary to illustrate your answer).

What are the principal factors affecting the skimming efficiency of the centrifugal cream separator, and what advantages has this method of procuring cream over the setting systems?

5. What are the principal factors regulating the firmness or hardness of butter, and to what extent can they be controlled by the buttermaker?

6. What influence has the fat content of milk on the character of the cheese produced from it and on the yield of cheese obtained?

What are the principal causes of excessive fat loss in the cheesemaking process?

7. Given a vat of over-acid milk to make into cheddar cheese, state the modifications you would make in the cheesemaking process so as to correct for the high acidity.

What influence has too much acid on the body, texture and shape of the mature cheese?

8. Describe briefly how the moisture content of cheese may be regulated in the manufacturing process.

What are the principal factors contributing to "shrinkage" or loss of weight during ripening, and how may this loss be minimised?

DAIRY FACTORY MANAGEMENT AND DAIRY ENGINEERING.

(Time allowed, two hours.)

ATTEMPT ONLY FIVE QUESTIONS.

1. Explain briefly the principle underlying mechanical refrigeration.

What are the conditions necessary for the efficient working of an ammonia refrigeration plant? How would you know whether there was: (a) sufficient gas (refrigerant) in the system, (b) air in the system?

2. What factors control the Vacuum pressure in a milk condensing pan? Under what conditions of working is the maximum rate of evaporation obtained?

3. Set out in order of milk flow the items of equipment necessary in Milk Pasteurising and Bottling Plant dealing with 2,000 gallons of milk daily.

What are the advantages of gravity flow in such a Plant and how may it be arranged?

4. Enumerate the different factors in the composition and processing of Ice Cream which contribute to better body and texture in the finished product.

What are the principal factors regulating the "over-run" or "swell" in Ice Cream manufacture?

5. Set out briefly the main items of equipment required in a creamery separating 6,000 gallons of milk daily, and converting the cream obtained into pasteurised sweet cream butter.

What would be the approximate daily butter output of such creamery, and what staff would be required to operate it?

6. Give a rough sketch of a cheese factory building suitable for the conversion of 1,500 gallons of milk daily into cheddar cheese (made up in 84-lb. size). Mark each apartment with dimensions, and give full particulars of the shelving accommodation based on a ripening period of 90 days.

CHEMISTRY AND PHYSICS.

(Time allowed, two hours.)

Questions 1, 2, 3, 4 and 5 must be answered, and one other question, but not more than one.

1. State briefly the chemical and physical properties of Nitrogen and Phosphorus. Mention any compounds containing Nitrogen and any compounds containing Phosphorus which are used in general dairy practice. Give their chemical composition, and state for what purposes they are used.

2. Give the Chemistry of the changes which take place when:—

- (a) Dextrose is produced from cane sugar,
- (b) Lactic Acid from milk sugar,
- (c) Glucose from starch,
- (d) Glycerine from fat.

3. Mention the important physical and chemical changes which take place during the ripening of cream and the ripening cheese.

Confine the length of your answer to two pages.

4. Name the constituents of feeding stuffs, and state briefly but clearly the functions of each constituent in the animal economy.

5. A cake sold at £9 per ton on analysis gave the following results:—

	%
Water	8.42
Oil	9.50
Protein (crude)	29.55
Carbos	38.21
Insol. Fibre	9.10
Ash	5.22

The digestible constituents were as follows:—

	%
Protein	24.5
Oil	8.7
Carbos and digestible fibre	33.0

Calculate (a) The cost per food unit; (b) The gross digestible energy expressed as starch.

6. Distinguish between Heat and Temperature, and between Specific Heat and Latent Heat.

How would a knowledge of Latent Heat assist you in Dairy Work? Give examples of its application.

7. Sketch and give measurements of the arrangement of a lever on which at one end a pail weighing 3 lbs. and containing 2 gallons of milk (sp.g. 1.032) is balanced by a 2-oz. weight placed at the opposite end of the lever. The weight of the lever need not be considered.

DAIRY BACTERIOLOGY.

(Time allowed, two hours.)

ANSWER FIVE QUESTIONS ONLY.

1. What do you understand by the death temperature of a micro-organism? How is the death temperature influenced by the period of exposure and by the reaction of the medium? Compare the efficiencies of steam and dry heat for purposes of sterilisation.

2. Samples of milk are found to be highly contaminated with (a) long-chain streptococci, (b) sporing rods. What sources of contamination would you suspect and what steps would you take to verify your suspicions?

3. Discuss the conditions which favour the growth of micro-organisms capable of producing acid rancidity in butter. What purposes? To what standards would you expect such a supply to rancidity?

4. What bacteriological tests would you apply to a sample of water to determine the suitability of a supply for dairy purposes? To what standards would you expect such a supply to conform?

5. What fermentative changes cause gas formation in cheese during (a) making, (b) ripening? Name the micro-organisms generally responsible for such changes. What precautions would you take to prevent gas formation in cheese?

6. Discuss the influence of "holder" pasteurisation on (a) pathogenic bacteria, (b) coliform organisms, (c) thermophilic bacteria, (d) non-pathogenic streptococci.

DAIRY BOOK-KEEPING.

(Time allowed, three hours.)

Answer THREE questions in all, of which one MUST be No. 1.

Question 1. Mr. B. Jameson is the tenant of Willowbank Farm, a 150-acre arable farm on which dairying is the main enterprise. From the information given below you are required to prepare for him:—

1. Balance Sheet as at 31st July, 1935.
2. Capital Account.
3. Profit and Loss Account for the year ended 31st July, 1936.
4. Balance Sheet as at 31st July, 1936.

(You may show any subsidiary accounts which you may think necessary.)

On 31st July, 1935, his financial position was as follows:—

Farm Valuation 4 Horses, £100; Dairy and young stock, £740; Poultry, £15; Oats in Granary, £5; Hay and Straw, £10; Feeding Stuffs, £15; Fixtures, £300; General Implements, £180; Motor Car, £60.

Sundry Debtors Milk Marketing Board: Milk for July, 1935: 1,780 gallons, £55.
Wheat Commission: Balance of Wheat Quota on 1934 crop, £12.

Sundry Creditors Milne & Co., Feeding Stuffs, £23.

Cash in hand, £5; Cash at Bank, £58.

From his farm cash book the following summarised lists of receipts and payments during the year have been extracted:—

(i) Receipts.			£		£
Sundry Debtors	at			Wheat sold, 305 cwt.	95
31/7/35	...	67		Wheat quota received	22
Dairy & young stock sold		93		Oats sold, 660 cwt.	184
2 fat cattle sold	...	36		Potatoes sold, 67 tons	226
Cattle subsidy received	...	5		Hay and straw	77
70 fat hogs sold	...	145		Sacks returned	3
Milk sold, 18,000 gallons		720		Dividend on shares	
Eggs and poultry sold	...	50		received	10
(ii) Payments.			£		£
Sundry Creditors	at			Livestock expenses	16
31/7/35	...	23		Rates, Taxes & Insurance	27
4 dairy cows bought	...	104		Miscellaneous expenses	63
72 store lambs bought	...	97		Bank charges and cheque	
Day-old chicks bought	...	7		books	3
New implements:				Motor car expenses	39
Engine for Boiler House		20		Household expenses	104
Grain Drill	...	30		Life insurance premiums	26
Feeding stuffs	...	255		School fees	25
Seeds	...	62		Personal expenses	13
Manures	...	93			
Wages and State Insurance stamps	...	261			
Rent	...	180			
Repairs, renewals and small tools	...	102			

At 31st July, 1936, the valuation of livestock and produce on hand was:—Horses, £80; Dairy and young stock, £723; Poultry, £18; Oats in Granary, £20; Hay and Straw, £29; Feeding Stuff, £4.

Sundry Debtors Milk Marketing Board: Milk for July, 1936, 2,100 gallons, £72.
Wheat Commission: Balance of Wheat Quota on 1935 crop, £29.

Sundry Creditors Milne & Co., Feeding Stuff, £19; Grass and Turnip seeds, £22.

Cash in hand, £4.

You are required to give effect to the following information:—

(i) Depreciation is to be written off the implements, &c., at the following rates per annum: General Implements 10 per cent., Fixtures 5 per cent., Motor Car 15 per cent.

(ii) Farm produce consumed in the household consisted of : Milk £9, Eggs and Poultry £6, Potatoes £3, Total £18; and farm produce allowed to workers consisted of potatoes £2.

(iii) Wages and Board of the farmer's son, estimated at £2 per week, are to be charged.

(iv) $\frac{1}{4}$ share of the motor car expenses and depreciation is to be charged to the private account.

Question 2. You are appointed assistant manager on a large mixed farm carrying work horses, dairy cows, young dairy stock, feeding cattle, feeding sheep, and poultry, where it is desired to keep an accurate record of the foodstuffs—both home grown and purchased—fed to these different classes of stock.

State briefly what steps you would take to achieve this, and what useful purposes, if any, this recording of foodstuffs might serve.

Illustrate your answer by such specimen records as you think necessary.

Question 3. Robert Bell takes over the tenancy of Mill Hill Farm with the intention of developing a large retail milk round employing the services of two (or more) full-time roundsmen. All the milk is to be bottled on the farm. Outline briefly what records should be kept by the roundsman so that he may :

- (i) Check the cash for which each roundsman must account.
- (ii) Ascertain the total quantity of milk, cream, eggs and poultry sold.
- (iii) Check up the customers' accounts, some of whom pay cash on delivery and some weekly.

Question 4. Assuming that you had been making the farm valuation on 31st July, 1935, at Willowbank Farm—as set out in Question 1—state briefly upon what basis you would have valued **each** of the items mentioned therein. For your fuller information, the “dairy and young stock” consisted of :

- 15 Ayrshire cows (including 3 bought during the year),
- 1 Ayrshire bull (4 years old),
- 10 2-year-old heifers in calf,
- 11 1-2-year heifers,
- 12 heifer calves (under 1 year).

Question 5. Explain briefly any six of the following items :—

Deposit account.

Unsecured overdraft.

Not negotiable.

Capital deficiency.

Schedule B assessment.

Dishonoured bill.

Goodwill a/c.

Earned income relief.

Papers set during 1937 by the
British Dairy Farmers' Association
for Buttermaking and Cheesemaking Certificates.

EXAMINATION FOR BUTTERMAKING CERTIFICATE
AT SOMERSET FARM INSTITUTE, CANNINGTON,
FRIDAY, SATURDAY, MONDAY AND TUESDAY,
MARCH 19TH, 20TH, 22ND AND 23RD,

EXAMINER :
MISS A. SHEPPARD.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. Give the essential points in milk production, cream production, and manufacture that ensure good butter.
2. What do you consider a good sample of butter? How would you allocate points when judging butter?
3. What is starter? Is its use essential in the manufacture of butter?
4. How has the pasteurisation of milk been advantageous in its distribution? To what temperature should milk designated "pasteurised" be heated?
5. What are the advantages gained by the centrifugal separation of cream from milk? Give the fat percentage in separated milk.
6. How would you obtain a representative sample of milk from one cow, and test this milk for butter fat?
7. What are the regulations at present controlling the sale of unheated milks?
8. How would you wash and sterilize the following:—
 1. 10-gallon milk churn,
 2. Butter churn,
 3. Milking machine,
 4. Milking buckets,
 5. Separator?

EXAMINATION FOR CHEESEMAKING CERTIFICATE
AT SOMERSET FARM INSTITUTE, CANNINGTON,
FRIDAY, SATURDAY, MONDAY AND TUESDAY,
MARCH 19TH, 20TH, 22ND AND 23RD.

EXAMINER :
MISS A. SHEPPARD.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. How would you treat the evening's milk for Cheddar cheesemaking the next day :—

(a) if the temperature of the dairy, in the evening, were 85°F,

(b) if the temperature of the dairy, in the evening, were 60°F,

(c) if the temperature of the dairy, in the evening, were 38°F?

2. What points in manufacture ensure a cheese of long-keeping quality?

3. How would you maintain a pure culture starter for use in a cheesemaking factory? What are the indications that a starter is weakening?

4. Under what conditions would you advocate the manufacture of Caerphilly cheese? How does a Caerphilly differ from a Cheddar when ready for consumption?

5. How do soft cheeses differ from cream cheeses?

Compare the manufacture of (a) Coulommier,

(b) Double cream cheese.

6. Give the difference between the terms: "Blue veined cheese" and "Green cheese." What points of manufacture and ripening favour the blue veining of cheese?

7. Describe the following tests, giving their relative uses :—

1. Methylene Blue Reductase Test.

2. Acidimeter Test.

3. Hot Iron Test.

8. Give the average fat percentage of whey from Cheddar cheesemaking. What would an abnormally high fat percentage of whey indicate? What is the most profitable method of whey disposal on a farm?

EXAMINATION FOR BUTTERMILKING CERTIFICATE
AT THE SEALE-HAYNE AGRICULTURAL COLLEGE,
NEWTON ABBOT ; ON MONDAY, TUESDAY AND
WEDNESDAY, JULY 12TH, 13TH AND 14TH.

EXAMINER :

ALEC TODD.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. Describe the usual tests applied to milk for fat, and solids not fat.
2. How do you regulate the thickness of cream taken from the Separator? What percentage of fat is usually found in cream for buttermaking and for double thick cream?
3. How much butter would you get from 10 gallons of milk containing 3.5 per cent. butter fat.
4. Describe the process of making cream cheese from a gallon of cream containing 50 per cent. butter fat.
5. What regulations govern the sale of whole milk to the consumer.
6. How would you proceed in the manufacture of butter, to get a close and firm texture in the butter.
7. How far is the quality of butter regulated by using a starter? State what you know about propagating a starter.
8. Describe the treatment of cream intended for buttermaking under factory conditions.

EXAMINATION FOR CHEESEMAKING CERTIFICATE
AT THE SEALE-HAYNE AGRICULTURAL COLLEGE,
NEWTON ABBOT ; ON MONDAY, TUESDAY AND
WEDNESDAY, JULY 12TH, 13TH AND 14TH.

EXAMINER :

ALEC TODD.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. In what way do present-day regulations ensure the safety of milk as a food?
2. What treatment would you suggest, and how would you cope with milk that was off flavoured, and showing an acidity of .19 per cent. to get the best cheesemaking results?
3. State the tests you would apply to milk in a cheese factory, in order that the supply may be kept up to a good average standard of quality and cleanliness.
4. What is meant by the term ripening as applied to milk for cheesemaking? Is it essential that milk for all types of cheese should be ripened?
5. How much Cheddar curd and ripe cheese would you expect to get from 100 gallons of normal milk, and what factors might influence this yield?
6. Is the ripening of a hard pressed cheese in any way influenced by the treatment the cheese receives during pressing?
7. Compare the ripening of a blue-veined cheese with the ripening of a soft cheese such as Pont L'Évêque.
8. What regulations govern the control of cheesemaking in a factory as compared with farmhouse cheesemaking?

EXAMINATION FOR BUTTERMAKING CERTIFICATE
AT THE STUDLEY COLLEGE, WARWICKSHIRE;
ON FRIDAY, SATURDAY, MONDAY AND TUESDAY,
JULY 23RD, 24TH, 26TH AND 27TH.

EXAMINER :

MISS V. E. CHEKE.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. Compare the manufacture of farmhouse and creamery butter.
2. Discuss possible causes of streakiness in these butters.
3. Describe two methods of making and packing clotted cream.
4. What method of pasteurization do you consider suitable for cream for buttermaking? Describe the ripening of such cream for daily churning.
5. What is the object of temperature reduction in—
 - (a) milk for sale,
 - (b) cream for churning?
6. What per cent. fat contents are to be expected in—
 - (a) farmhouse and creamery butters,
 - (b) cream for churning,
 - (c) sweet and acid cream, buttermilk,
 - (d) Shorthorn and Guernsey milk,
 - (e) cream for sale?
7. Describe the centrifugal separation of milk, and methods of regulating fat content of cream.
8. Describe the construction of a typical milk-cooler for farmhouse use.

EXAMINATION FOR CHEESEMAKING CERTIFICATE
AT THE STUDLEY COLLEGE, WARWICKSHIRE;
ON FRIDAY, SATURDAY, MONDAY AND TUESDAY,
JULY 23RD, 24TH, 26TH AND 27TH.

EXAMINER :

MISS V. E. CHEKE.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. In what way does a high fat content in milk for cheesemaking influence manufacture and product?
2. Discuss briefly a suitable scheme for testing milk at a cheese factory as a check on methods of milk production.
3. How would you deal with milk of high initial acidity in the manufacture of Cheddar cheese?
4. What factors influence abnormal gas formation in (a) milk, (b) during ripening of cheese?
5. Describe the characteristic textures of Wensleydale and Cheddar cheese. What points in manufacture are of importance in their texture formation?
6. Give the temperatures and percentage humidities most suitable for ripening:—
 1. Hard-pressed cheese for long storage.
 2. " " " " quick sale.
 3. Stilton cheese to be sold blue.
7. Describe the influence of lactic acid production in cheese manufacture. How would this be affected by (a) pasteurization of the milk, (b) addition of starter?
8. Give important differences in a quick, and slow-ripening, hard-pressed cheese.

EXAMINATION FOR BUTTERMAKING CERTIFICATE
AT THE AGRICULTURAL INSTITUTION, USK,
MONMOUTHSHIRE ; ON MONDAY, TUESDAY AND
WEDNESDAY, AUGUST 9TH, 10TH, AND 11TH.

EXAMINER :
MISS N. BENNION.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. Write all you know of the effects of food on the flavour of milk and dairy produce. If the milk from a farm where facilities for production were good had acquired a persistent bad flavour, what steps would you take to locate the trouble?
2. What are the changes in the regulations regarding the sale of milk under special designations?
3. What do you understand by the term pasteurisation? For what reasons is the process employed in Dairying?
4. Give a complete description of cream, its origin, its properties, characteristics and its uses.
5. What is meant by a composite sample and how is it taken? Of what service is it in milk testing?
6. Indicate how you would endeavour to produce a high-grade butter of good appearance and keeping properties from June milk. How much butter would you expect from 140 gallons of milk containing 3.4 per cent. fat?
7. What is the object of the following in buttermaking—
 - (a) Scalding the churn and worker.
 - (b) Break water.
 - (c) Brining.
 - (d) Dry Salting.
8. Give the government standard for the following—
 - (a) Fat in milk.
 - (b) Solids not fat in milk.
 - (c) Water in butter.
9. What do you understand by—
 - (a) Centrifugal force.
 - (b) Sleepy cream.
 - (c) Rancidity.
 - (d) Over-run in buttermaking.

EXAMINATION FOR CHEESEMAKING CERTIFICATE
AT THE AGRICULTURAL INSTITUTION, USK,
MONMOUTHSHIRE; ON MONDAY, TUESDAY AND
WEDNESDAY, AUGUST 9TH, 10TH AND 11TH.

EXAMINER :
MISS N. BENNION.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. (a) What measures would you take to procure a clean, sound milk for cheesemaking?
(b) Why is the evening's milk cooled? If for any reason the evening's milk could not be cooled below 80 deg. on a hot summer evening, what would be the effect on the cheese milk and how would you endeavour to counteract this in the manufacturing process?
2. Describe in detail the preparation and management of a pure culture starter. What amount of starter would you employ when making 56 gallons of milk into Cheddar cheese?
Indicate the temperature and duration of the ripening process.
3. What faults are commonly associated with Stilton cheese-making and to what causes are they due?
4. What are the essential points of distinction between soft and hard pressed cheese and how are these differences produced?
5. Describe in detail the management of a Leicester cheese from the time of milling until it is ready for sale. What are the chief differences between a fully matured Leicester cheese and a Derby cheese?
6. Write notes on the following—
(a) Acidimeter and reagents used along with it.
(b) Rennet test.
(c) Fat content of ordinary whey and whey from press.
(d) Salt in relation to cheesemaking and ripening.
7. What are the chief differences in the making of a medium ripening and long keeping Cheshire cheese?
8. Give details of the manufacture of a Coulommier cheese.
9. What are the chief points to be observed in the construction and management of a ripening room for the following—
(a) Hard pressed cheese.
(b) Blue-veined cheese.

EXAMINATION FOR BUTTERMAKING CERTIFICATE
AT THE BRITISH DAIRY INSTITUTE, READING; ON
TUESDAY, WEDNESDAY, THURSDAY AND FRIDAY.
AUGUST 31ST, SEPTEMBER 1ST, 2ND AND 3RD.

EXAMINER.

MISS J. STUBBS.

Three hours are allowed for this paper.

Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. Milk has been termed a "perfect food." Discuss this statement.
2. A sample of milk contains 3% fat and has a specific gravity of 1.028. Would you consider this to be a normal sample? Give reasons for your answer.
3. Describe the process of making butter from clotted cream, from the time the milk is received into the dairy.
4. Compare the flavour, texture and keeping qualities of butter made from clotted cream with butter manufactured from ripened cream.
5. Briefly describe a method of keeping records—what advantages would such a system afford a farmer?
6. Describe what you consider to be a satisfactory method of preparing cream for sale.
Suggest percentages of fat for:—
 - (a) Cream for coffee.
 - (b) " " fruit.
 - (c) " " sold as double cream.
 - (d) " " " average cream.
7. Give the essential differences in the treatment of cream for buttermaking in:—
 - (a) A farmhouse dairy.
 - (b) A factory.
8. How would you judge "made-up" butter? Give a scale showing how you would allocate the points.

EXAMINATION FOR CHEESEMAKING CERTIFICATE
AT THE BRITISH DAIRY INSTITUTE, READING; ON
TUESDAY, WEDNESDAY, THURSDAY AND FRIDAY,
AUGUST 31ST, SEPTEMBER 1ST, 2ND AND 3RD.

EXAMINER.

MISS J. STUBBS.

Three hours are allowed for this paper.

Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. Do you consider that the food of a cow may influence the yield and flavour of the milk? Discuss this influence, if any, on cheese made from the milk.
2. What precautions should be taken in the daily propagation of a starter to prevent it becoming contaminated? Describe the appearance of a starter which would lead you to suspect contamination.
3. Would you ripen milk for cheesemaking? Give reasons for your answer.
4. Compare a Cheddar cheese made from ripened milk with one made from sweet milk. Tabulate your answer.
5. Give the average composition of whey. Describe a satisfactory and profitable method of utilising the whey from a cheese factory.
6. What factors influence the ripening of Wensleydale? Give the changes which take place from the time of moulding until ripe.
7. Fifty gallons of milk are utilised in making a Cheddar. What weight of cheese would you expect :—
 - (a) From press.
 - (b) When the cheese is three months old.Give the temperature and humidity of the ripening room.
8. Calculate the percentage of fat and total solids in a sample of milk containing 3.7% fat and having a specific gravity of 1.031.

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 Dutton, S. L., Woodside, Wettenhall, Winsford, Cheshire (L.M.).
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 Dyson, H. A. Y., Dalton, Bolney, Sussex.
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 Edwards, Henry, Hofland Road, West Kensington, London, W. 14.
 Edwards, P., School of Agriculture, The University, Cambridge.
 Edwards, Miss Katie, 39, Palmer Road, Llandaff, Cardiff.
 Edwards, Sidney, Tynewydd, Castleton, Cardiff.
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 Ellis, Robert, Standard Works, Annan, Scotland (L.M.).
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 Elmhurst Farming and Trading Co., Ltd. (represented by H. St. George
 Voules), Elmhurst Farm, Slinfold, Sussex (L.M.).
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 Empson, C. C., Valley Farm, Sproughton, Ipswich.
 England, W. J., Somerset Farm Institute, Cannington, near Bridgwater.
 Enock, Arthur Guy, Dutch House, Raglan Gardens, Wembley Park.
 Enock, G., Margaret Street Works, Windus Road, N. 16 (L.M.).
 Ernst, Christian C, High Birch Poultry Farm, Weeley Heath, Clacton, Essex.
 Errington, Roger, Victoria Mills, Sunderland.
 Evans, Miss D. M., County Offices, Dorchester.
 Evans, Capt. J. F., Sugley Farm, Nailsworth, Glos.
 Evans, E. A., United Dairies, Ltd., 34, Palace Court, W. 2.
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 Evans, Mrs. J. M., 2, Rodney Gardens, Eastcote, Middx.
 Evans, Richard H., Barclays Bank Chambers, Pwllheli, Carnarvonshire.
 Evans, Mrs. R. H., 32, Cardiff Road, Pwllheli, Carnarvonshire.
 Evans, Miss R. M., Agricultural Offices, Lampeter, Cardiganshire.
 Evens, John, J.P., Burton, Lincoln.
 Evens, John, junr., Burton, Lincoln (L.M.).
 Evens, Thomas, Ramsland, Yeahampton, Devon.
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 Fortescue, George G., Boconnoc, Lostwithiel, Cornwall.
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- Hardman, N., The Elms, Barton, Preston, Lancs.
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- Harrison, E. W., Top House, Kenwick Park, Ellesmere, Salop.
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 Hay, W. D., B.Sc., Somerset Farm Institute, Bridgwater, Somerset.
 Haydon, D., 63, Honor Oak Road, S.E. 23 (H.M.).
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 Henderson, Hon. E. B. B., Faccombe Manor, Andover, Hants.
 Henderson, Hon. P., Gerston, Storrington, Sussex.
 Henderson, Miss Marjorie, The Riding, Hexham, Northumberland.
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 Hobbs, Robert, Kelmescott, Lechlade, Glos.
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 Hobson, C. W., Woodhey Hall, Nantwich.
 Hobson, H. S., Brockton Hall, Eccleshall, Staffs.
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 Howie, James, Eglinton Mains, Irvine, Ayrshire.
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 Hughes, J. T., Lindow, Rhosneigr, Anglesey.
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 Huxley, Dr. H., Wootton Close, Boars Hill, near Oxford.
 Hyland, A. E., Room 400, Australia House, Strand, W.C. 2.
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 Ison, B. J., Oakfield, Ashby-de-la-Zouch, Leicestershire.
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 Jenkins, Miss O., Shire Hall, Hereford.
 Jenkinson, F. H., 14, Church Lane, Handsworth, Birmingham.
 Jenkinson, W. D., 14, Church Lane, Handsworth, Birmingham.
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 Jervoise, Major F. H. T., Herriard Park, Basingstoke.
 Jervoise, Mrs. B., Herriard Park, Basingstoke, Hants. (L.M.).
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 Johnson, J. W., 19, Westgate, Peterborough.
 Johnson, Miss M., Meadow End Poultry Farm, Cradley, Malvern, Worcs. (L.M.).
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 Jones, Rev. D. M., 189, Caerphilly Road, Seughewydd, Caerphilly, Glam.
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 Jones, G. Cecil, 43, Great Tower Street, London, E.C. 3.
 Jones, Major Harry, The Elms, Brandon, Suffolk.
 Jones, Issac, Llysfas Farm Institute, Ruthin.
 Jones, Miss J., Shire Hall, Llangefni, Anglesey.
 Jones, Miss M., The County Dairy, Houghall, Durham.
 Jones, William C., Hatherton Lodge, near Nantwich.
 Jopson, D., Ormathwaite Hall, Keswick, Cumberland.
 Joyce, John, Milverton, Somerset.
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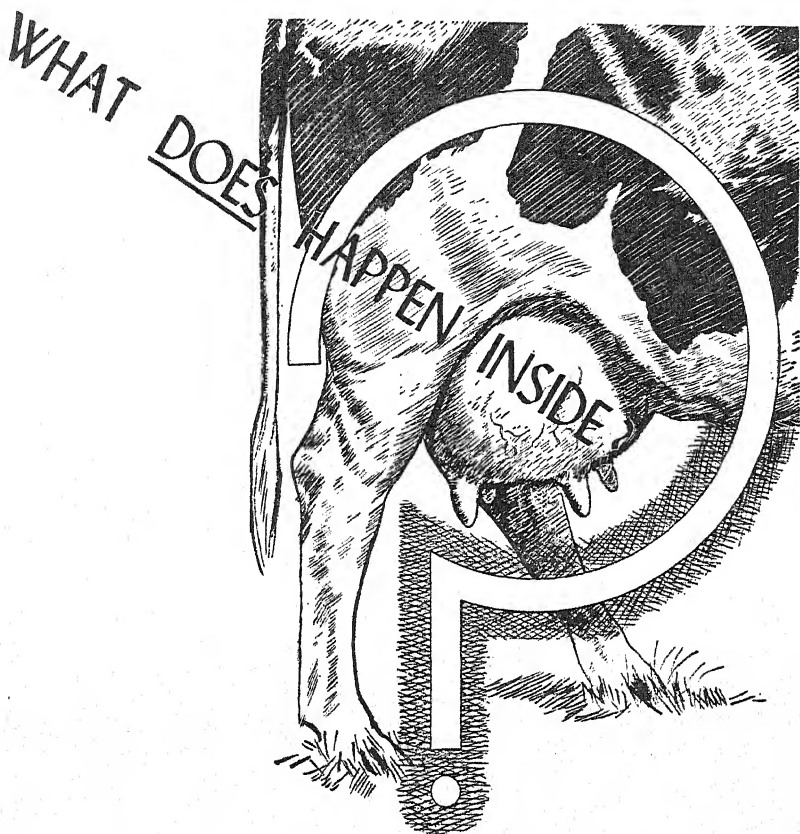
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INDEX TO ADVERTISERS.

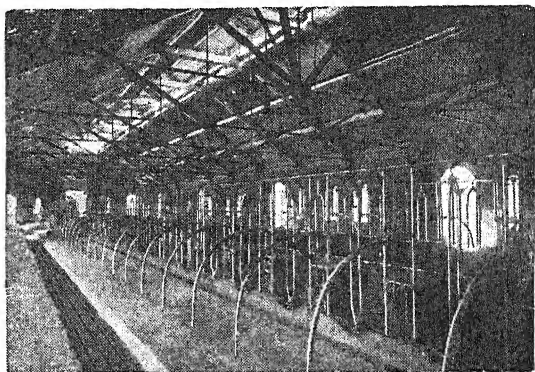
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any statements made in the Advertisement columns of this Journal.

	PAGE
AYRSHIRE CATTLE HERD BOOK SOCIETY	431
BRITISH DAIRY INSTITUTE	424
BRITISH OIL & CAKE MILLS, LTD.	4
BROOKS (MISTLEY), LTD.	3
CATALINE CO., LTD.	Outside Back Cover
CROWN CORK CO., LTD.	432
FORSTERS GLASS CO., LTD.	430
HOLLAND, W. L.	429
KING, G. W., LTD.	428
MAPPIN & WEBB, LTD.	1
MONO SERVICE CONTAINERS, LTD.	6
OLYMPIA OIL & CAKE CO., LTD.	Inside Front Cover
SILCOCK, R., & SONS	425
SMITH BROS. & CO., LTD.	429
WOMEN'S FARM AND GARDEN ASSOCIATION	429



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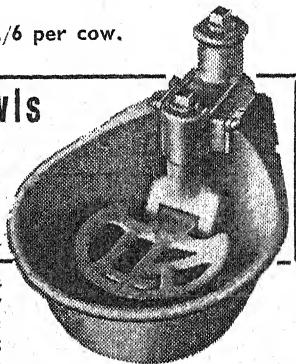
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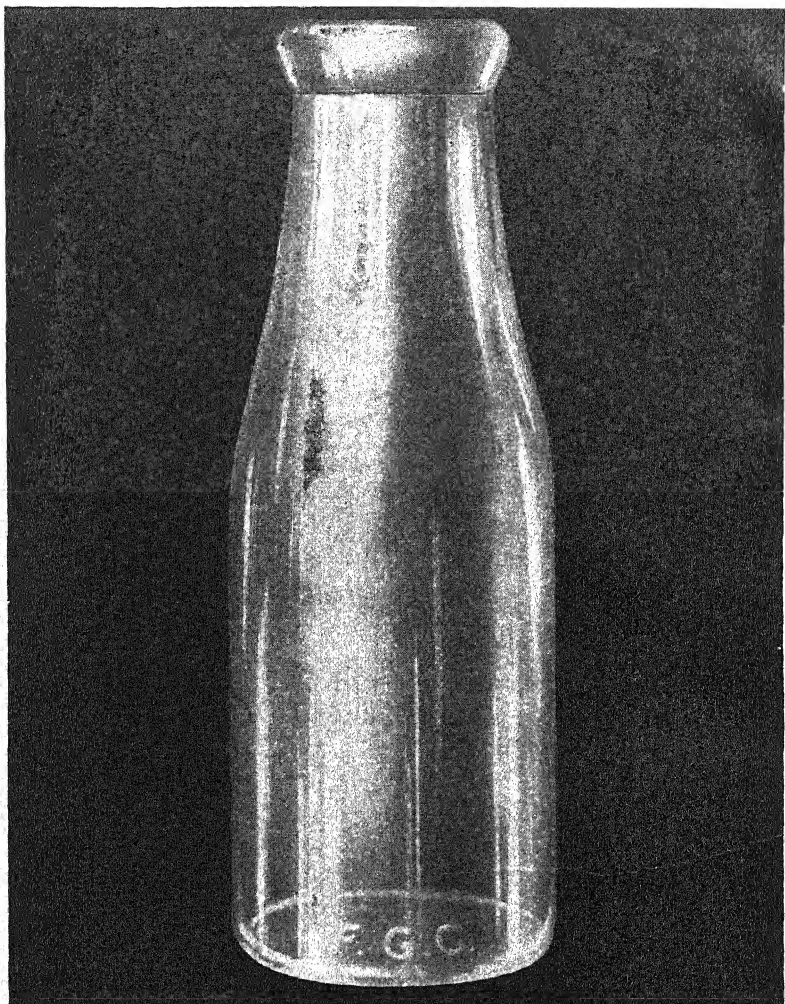
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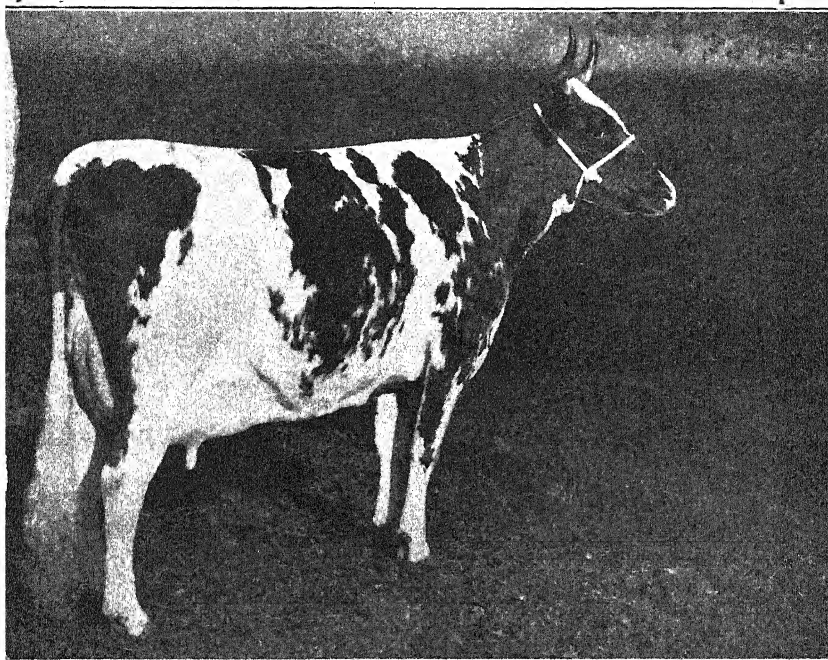
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